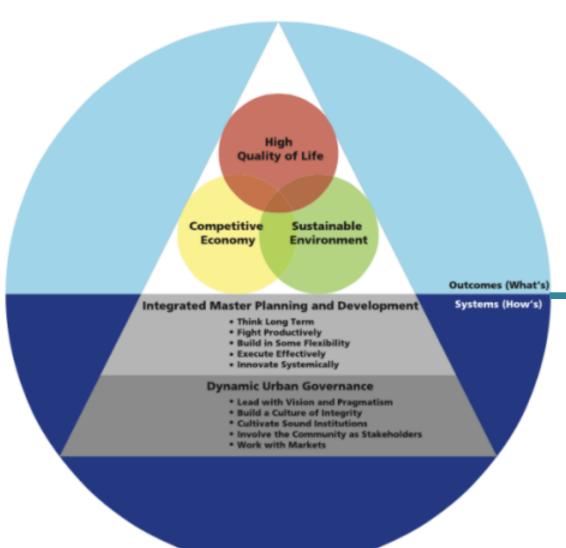




SG UNHabitat iLUGP Speaker Michael Koh Fellow, Centre for Liveable Cities

Singapore Liveability Framework

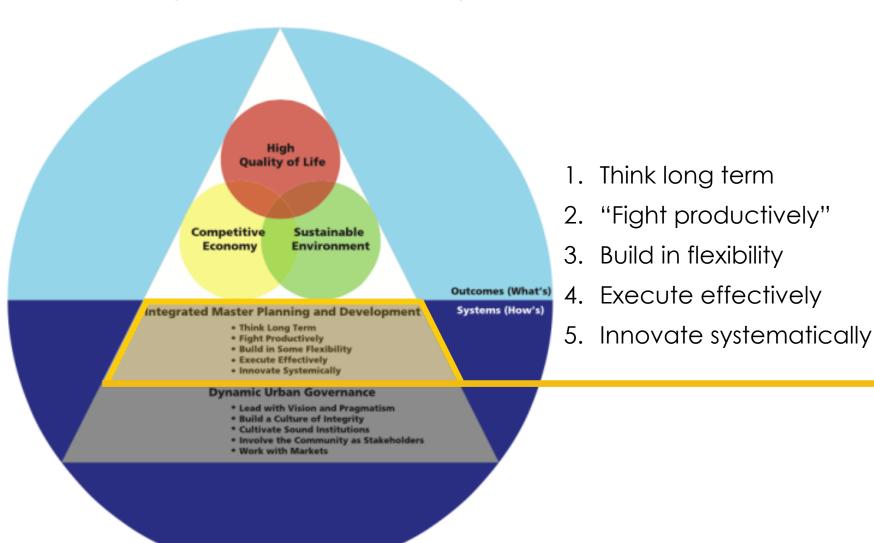


Outcomes of Liveability

- 1. High Quality of Life
- 2. Competitive Economy
- 3. Sustainable Environment

Singapore Liveability Framework

Principles of Integrated Master Planning and Development



Outline

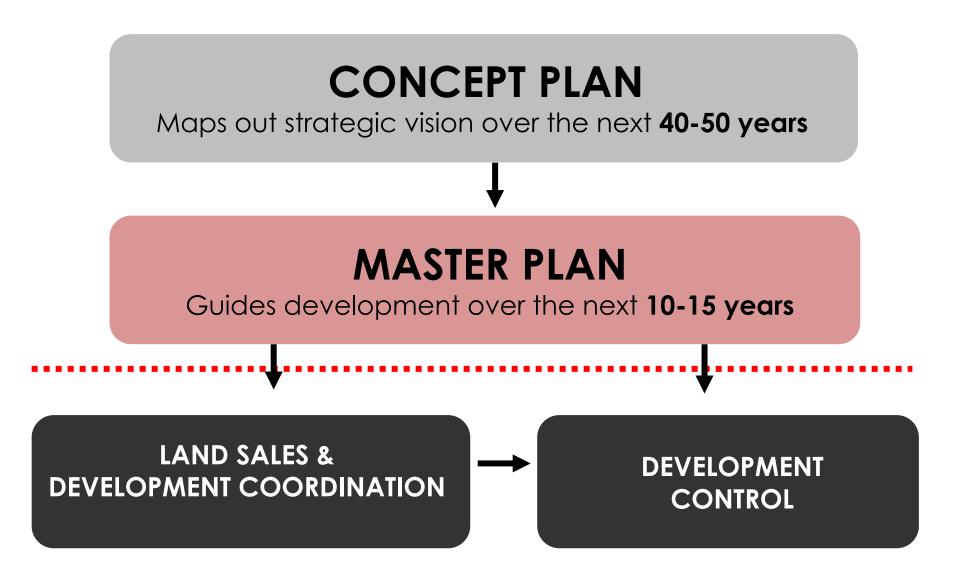
Principles of Integrated Master Planning and Development

- **01** Concept Plan
- **02** Master Plan
- 03 Integrated Transport Planning
- 04 Urban Design Controls
- 05 Conservation

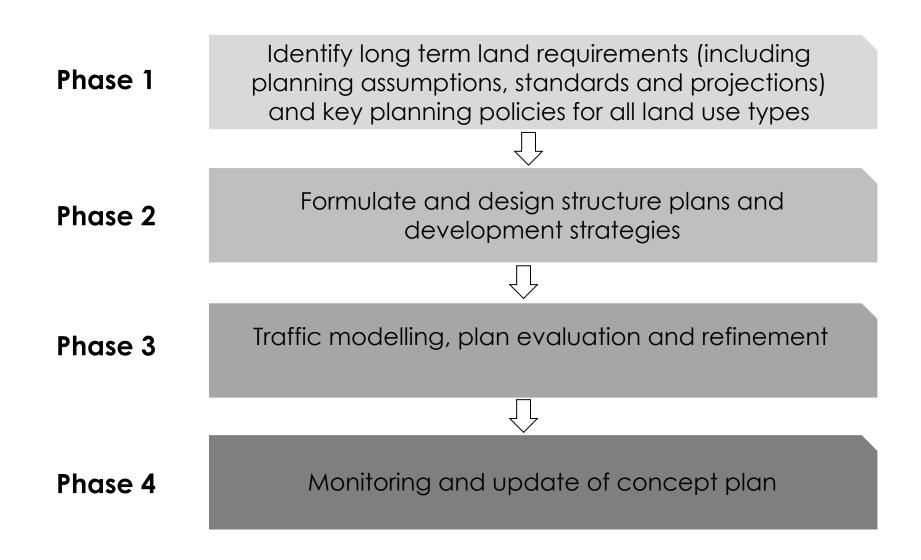
Concept Plan

- 01 Concept Plan
- **02** Master Plan
- 03 Integrated Transport Planning
- 04 Urban Design Controls
- 05 Conservation

Planning and Development Framework



Concept Plan Review Process



Concept Planning Framework & Strategic Planning Components

POPULATION PROJECTIONS

8 CRITICAL AREAS Integrator: URA

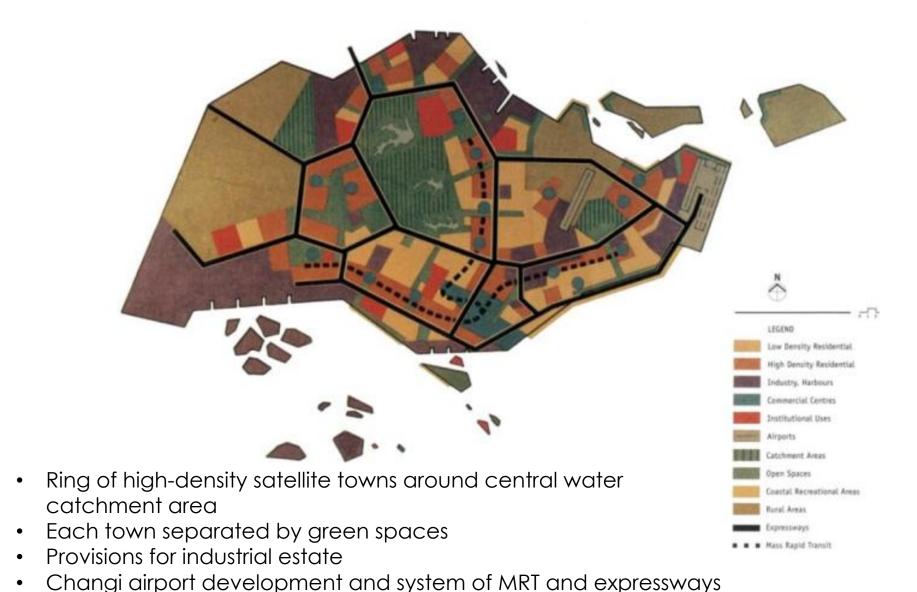
LAND SUPPLY

INDUSTRY [MTI/JTC] COMMERCE [EDB] **INFRASTRUCTURE** [PUB] **ENVIRONMENT** [NEA] RECREATION [NPARKS] HOUSING [HDB] **INSTITUTIONAL USES** [MOE] **TRANSPORT** [LTA]

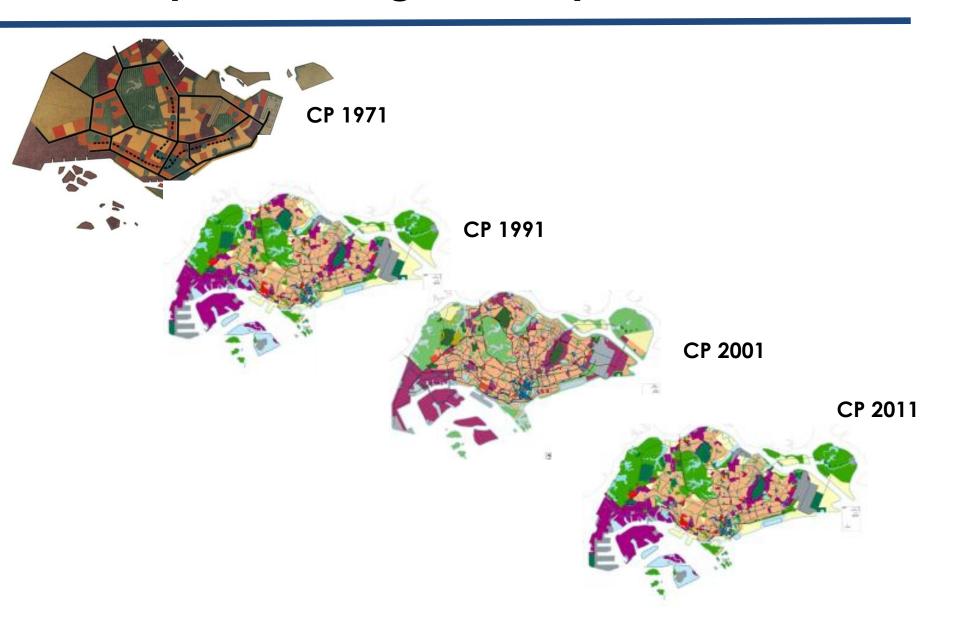
DEVELOPMENT CONSTRAINTS

ECONOMIC FORECASTS

Concept Plan 1971: 'Ring' Plan structure



Concept Plan: Regular 10-year review



Master Plan

- 01 Concept Plan
- **02** Master Plan
- 03 Integrated Transport Planning
- 04 Urban Design Controls
- 05 Conservation

Local Planning: Development Guide Plans (DGP)

DGP is a product of detailed physical planning in the planning process.

Relationship with Concept Plan

Concept plan, a long term development strategy, forms the base for all physical development of Singapore whilst DGP translates the intentions of Concept Plan into detailed guidelines

Relationship with Master Plan

Completed DGP will be gazetted to replace corresponding part of the existing MP under Section 6 of the Planning Act

Relationship with Development Control

Gazetted DGP guide physical development through development control

The Planning Process

REVISED CONCEPT PLAN

Map out long term land use and development strategy for 40-50 years



DEVELOPMENT GUIDE PLANS

Translate Concept Plan into localised specific plans for each of the 55 planning areas



MASTER PLAN PROPOSALS

Legal document proposed for each planning area



OLD MASTER PLAN

Includes additions and alterations



REPLACES THE OLD MASTER PLAN FOR EACH PLANNING AREA

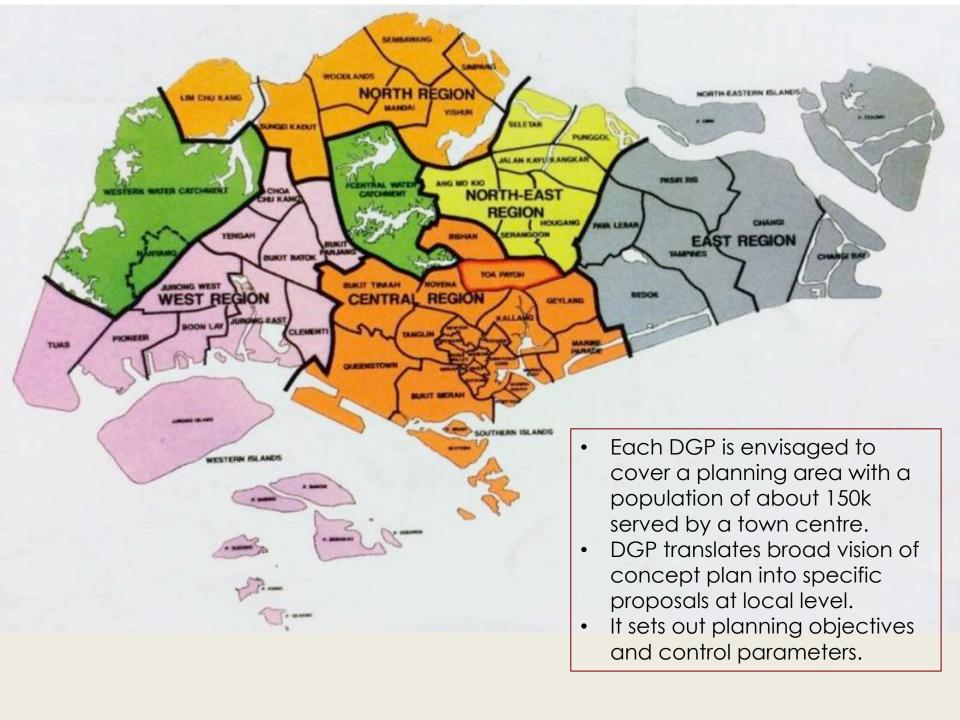


NEW MASTER PLAN

Comprises Master Plan for each planning area and guides Singapore's future development over 15-20 years

DGP

- Proactive effort to do more systematic and comprehensive planning
- Guide the use and development of land for Singapore
- Set in place a guiding plan, as well as a framework and process that allowed the public and government agencies to rely on the Master Plan as a guiding document for land use decisions
- One DGP for each of the 55 Planning Areas



DGP Process

Monitor & Review

Stage 6: Statutory Master Plan

The Draft Master Plan is revised after all objections from the public have been evaluated. The finalised Master Plan or DGP is gazetted to replace the existing Master Plan for the area that it covers

months

Stage 1: Data collection

Data is collected to understand the planning area

Refinements

Stage 5: Statutory exhibition

A public exhibition of the Draft Master Plan is held to allow the public to lodge any objections. As a statutory requirement under the Planning Act, the Master Pan exhibition must be held for a minimum of two weeks

Stage 2: Data analysis

The data collected is analysed to assess the area's strengths and weakness and to establish the planning objectives and strategies for the area

Stage 3: Outline plan

months

An Outline Plan is prepared, detailing the planning control guidelines such as land-use zoning. For selected DGPs, exhibitions and dialogue sessions are held on the Outline Plan to gather feedback from developers, industry organisations and members of the public

6 months

Stage 4: Draft Master Plan

The Outline Plan is refined into a Draft Master Plan. Any useful feedback that was gathered earlier is incorporated.

From DGP to Master Plan



Partnership with Agencies

- Land use planning as multiagency effort
 - All agencies have common stake in development of Singapore
- Master Plan Committee (MPC)
 - Involves collaboration among agencies, with URA as coordinator
 - Ensures land is put to best possible use
 - Resolves conflicts and tradeoffs















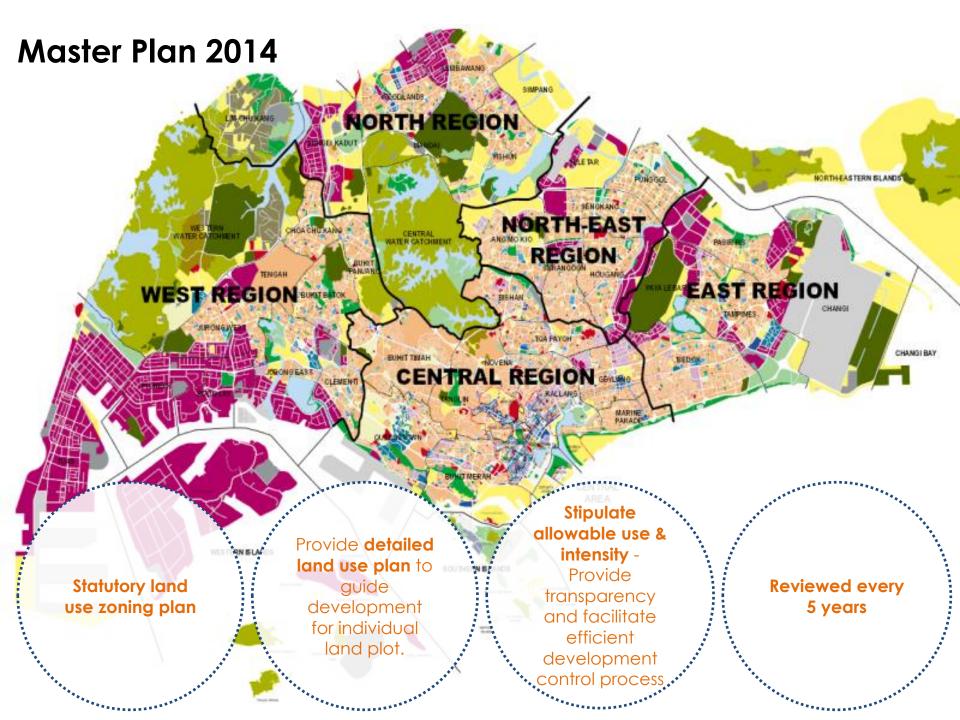


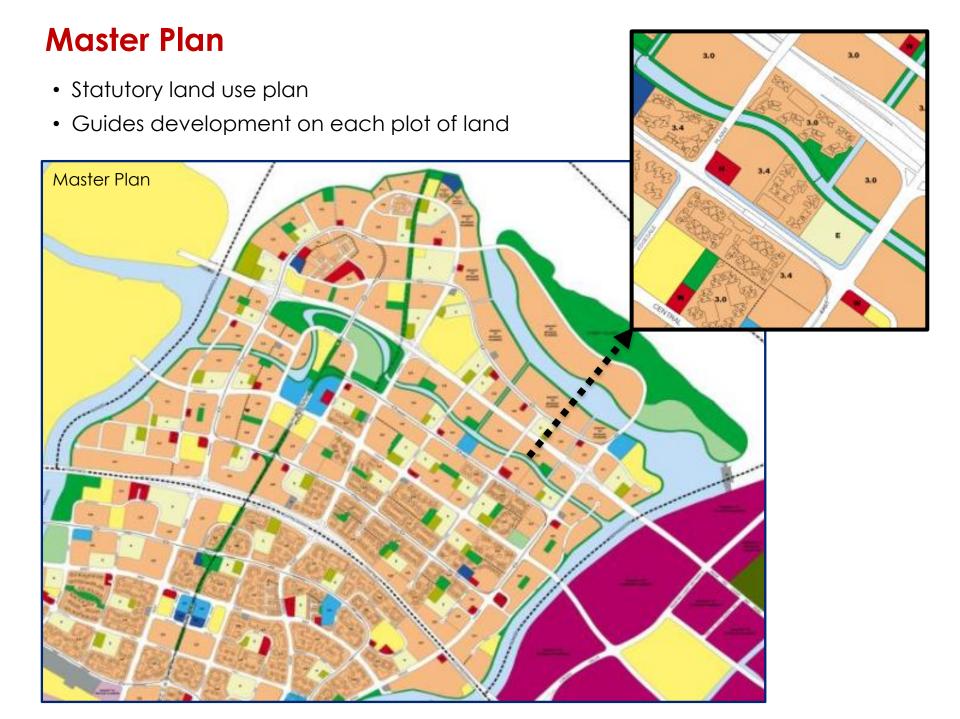




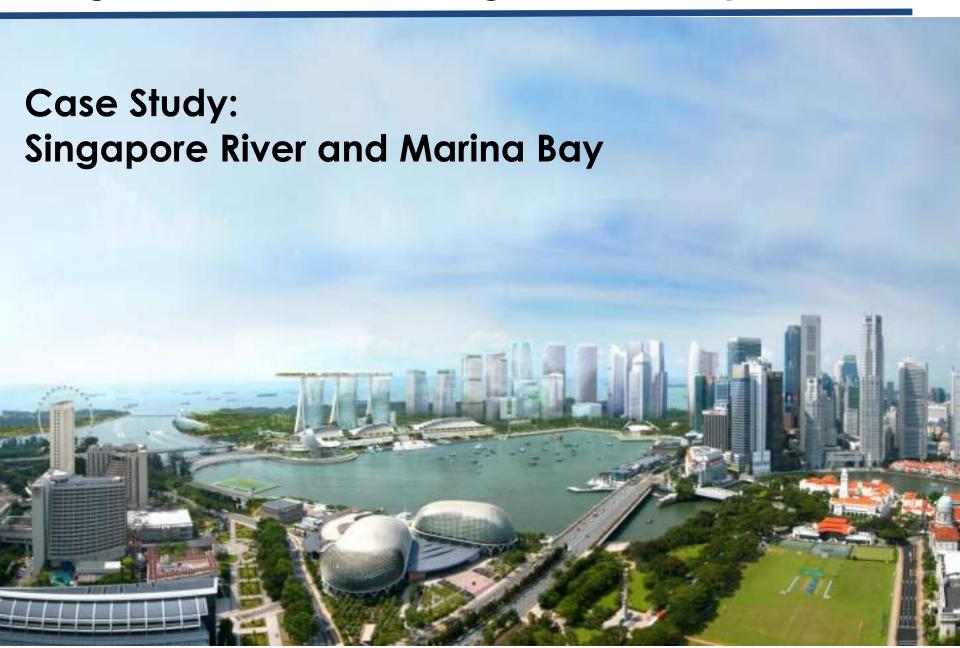








Integrated Master Planning and Development





Tackling the Challenges

Phase 1 – Basic Infrastructure 1960's – 1970's Phase 2 – Providing Quality 1980's – 2000's Phase 3 –
Sustainability and
Liveability
2000's - Present

Development of Singapore River and Marina Bay

Phase 1: Basics

- 1. Sorting out the housing problem after self-governance (Establishment of HDB in 1960)
- 2. Land acquisition and resettlement
- Urban Renewal (setting up URD, and URA)
- 4. Cleaning up the Singapore River

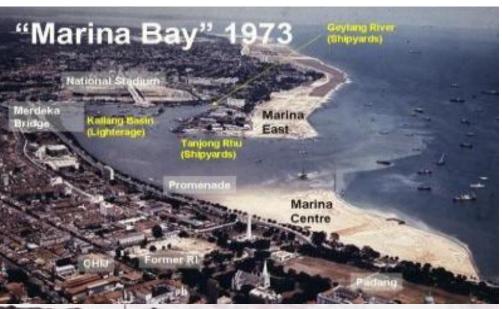
Phase 2: Quality

- 6. Plans by I.M. Pei and Kenzo Tange
- Conservation and further urban renewal
- 8. Singapore River Plan

Phase 3: Sustainability

- 10. Construction of Marina Barrage
- 11. Construction of Gardens by the Bay
- 12. Car-lite City and car-free zones
- 13. Upgrading of Civic District
- 14. Development of Greater Southern Waterfront

Phase 1: Challenges at Singapore River and Marina

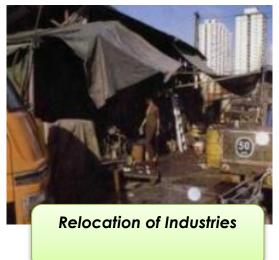


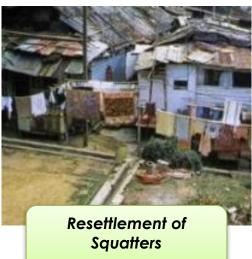
- Massive overcrowding and uncontrolled urban sprawling
- Pollution turned river into open sewer in the 1970s
- Lost relevance to trade
- How to renew area to spur new economic growth?



Phase 1: Singapore River Clean-Up

Cleaning up pollution at source







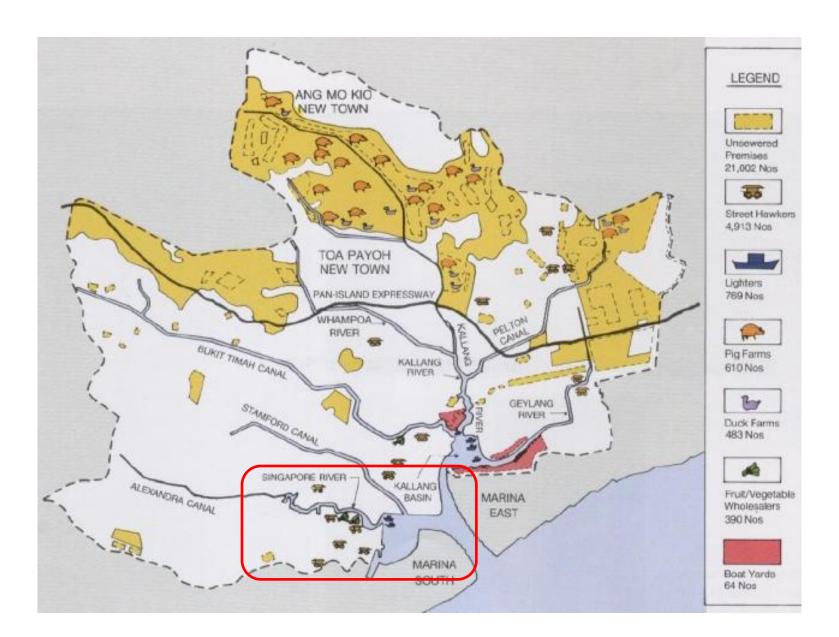








Phase 1: Singapore River Clean-Up Cleaning up pollution at source



Integrated Approach to the Singapore River Clean-up

- Master Plan drawn up (1977)
- 26,000 families resettled
- 610 pig and duck farms phased out
- More than 2,800 industrial cases resettled
- 4,926 street hawkers resited into food centres
- Lighterage activities from some 800 lighters in Singapore River resited to Pasir Panjang
- Cost of nearly \$300 million, excluding resettlement compensation





Phase 2: Designing Marina Bay

- Marina Bay Downtown
 - Engaged Kenzo Tange and IM Pei to formulate Master Plans for Marina Bay
 - Pei's plan adopted as it gave more design flexibility for future growth
 - Revisions to Pei's plan in the 1992 land use plan for a '21st century downtown'



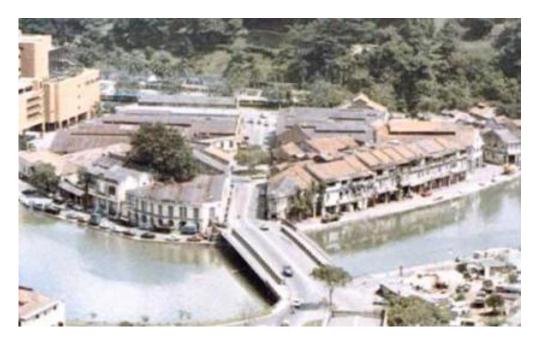
Master Plan by I.M. Pei (1983)



Master Plan by Kenzo Tange (1983)

Phase 2: Conservation and further urban renewal

Land Acquisition and Land Sales

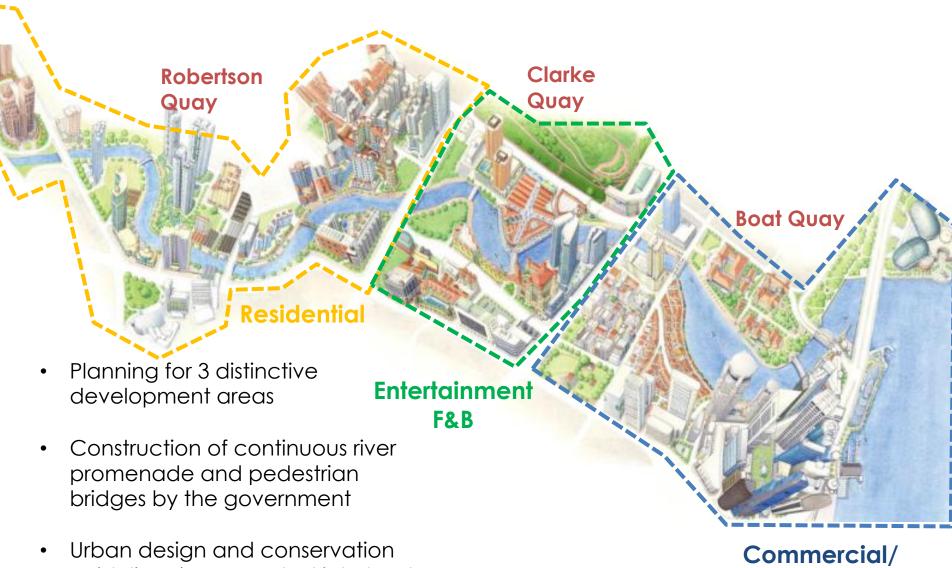


- Clusters of shophouses acquired
- Packaged for sale to private developers
- Restoration and adaptive re-use





Phase 2: Singapore River Concept Plan 1985

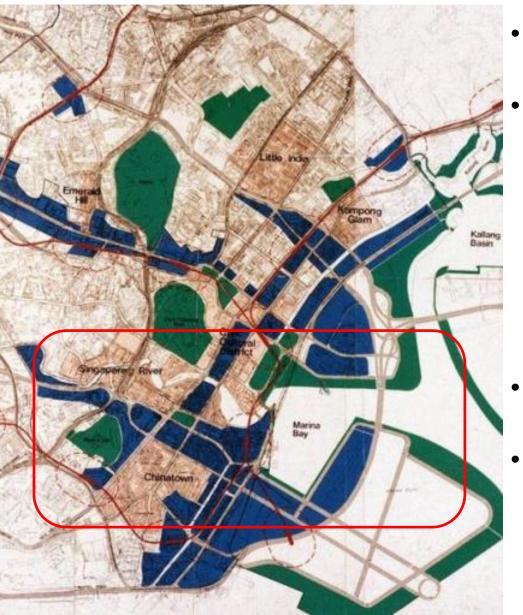


 Urban design and conservation guidelines incorporated into land sales conditions for private sector developments

Commercial/ business

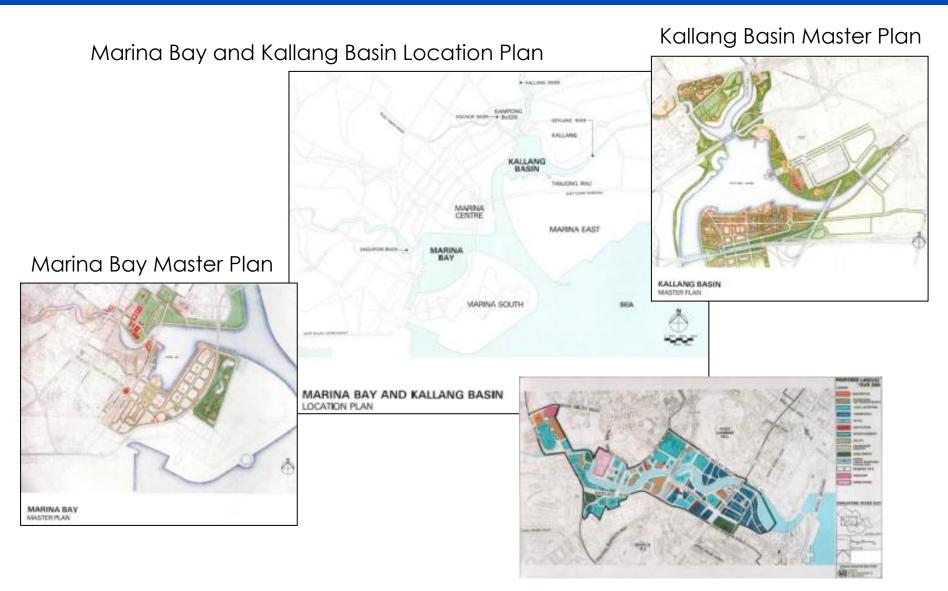
Phase 2: Central Area Structure Plan 1986

Comprehensive Planning for a distinctive city centre



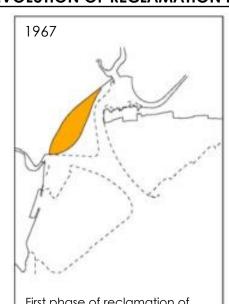
- Basic physical infrastructure completed by 1980s
- Decision to build urban rail network (MRT system) in 1982 -> opportunities to review urban structure of the city
 - Areas for intensive developments around MRT stations
 - Retaining green lungs for the city
 - Urban conservation districts to maintain our distinct identity
- Conservation districts identified as part of the Structure Plan
- Balanced by development potential in new development area, Marina Bay

Phase 2: Planning for Marina Bay

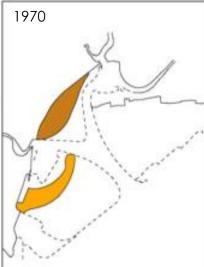


Development of the Singapore River Precinct

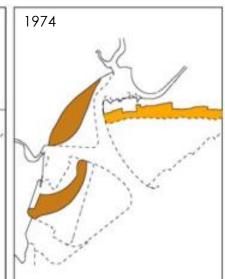
EVOLUTION OF RECLAMATION PROFILES



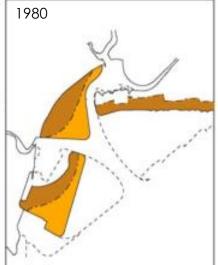
First phase of reclamation of land fronting Nicoll Highway



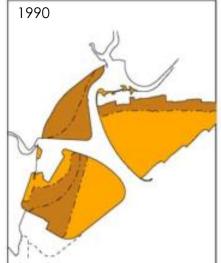
Reclamation of land around Telok Ayer Basin commenced



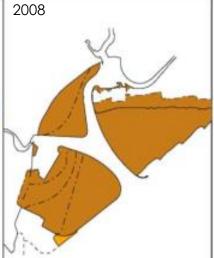
Reclamation of Marina East commenced



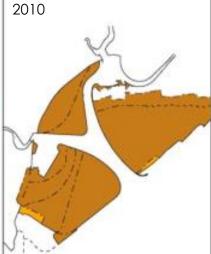
Reclamation of remainder of Marina Centre and area beyond Telok Ayer Basin



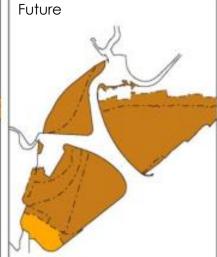
Reclamation of land at Marina Bay, Telok Ayer Basin and Marina East based on proposal by I.M. Pei



Reclamation of land for the International Cruise Terminal



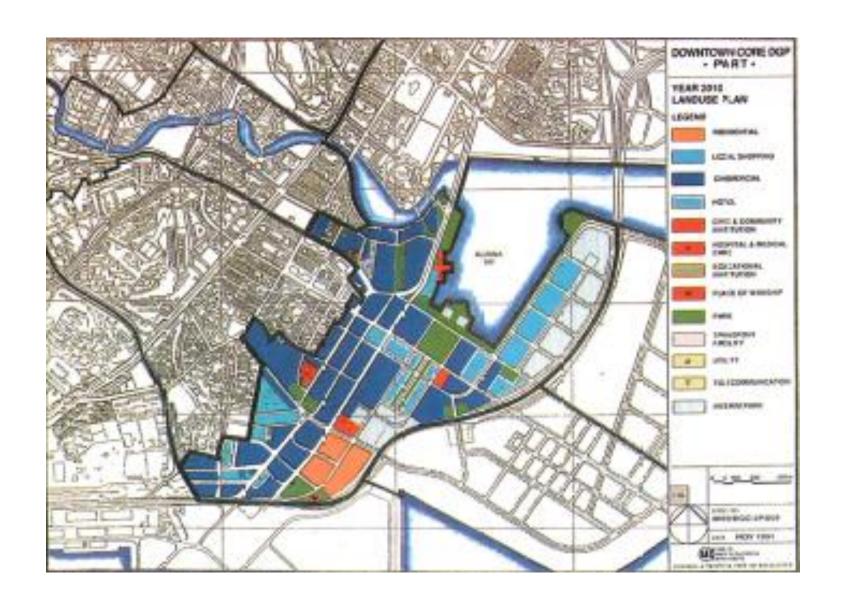
Reclamation of land for the construction of the Marina Coastal Expressway



Possible land profile after the relocation of the Tanjong Pagar Port Terminals in future



The 1991 Outline Plan for the Downtown Core DGP - CBD Zone



Phase 3: Sustainability and Liveability

- Allowing seamless extension of CBD and flexibility in staging developments:
 - Grid urban patter which extends from existing road network within CBD
- Facilitating mix of commercial and residential developments:
 - Land sales sites in Marina Bay zones as white site





Development approach for Marina Bay

Balancing value creation through environment enhancement vs. development potential

- Retaining the bay to create a waterfront city centre instead of reclaiming the entire bay to gain additional land
- ✓ Devoting 100 ha of land for three public waterfront gardens (Gardens by the Bay) instead of maximising revenue and putting it to higher value uses e.g. offices





Phase 3: Marina Barrage

Turning Adversity into Opportunity

<u>Marina Barrage</u>

- Turning Singapore River into a water catchment
- Manage floods in low lying areas
- Community space and water sports





Marina Barrage









Phase 3: Gardens By the Bay

City in a Garden

Gardens by the Bay

- 101 hectares of high value land set aside for recreation and greenery
- Enhance liveability of the city, providing vibrance and amenity



Vision for Marina Bay

A 24/7 live-work-play environment that encapsulates the essence of a global city

- More than a mere extension of the CBD that shut down after office hours
- A "life-style" precinct with a good mix of commercial, entertainment, hotel, residential and recreation developments







Phase 3: Car-lite City



- Improving accessibility and connectivity:
 - Extensive public transit network
 - Comprehensive
 network of covered
 walkways, underground
 pedestrian links &
 above-grade
 connections
 - Cycling paths along major arterials

Phase 3: Enhancing liveability

- Providing places where people will gather for events and their own recreation
 - Ample provision of parks and open public spaces









Phase 3: Upgrading the Civic District

Further enhance conservation efforts and urban rejuvenation

 Stitch together spaces to create an integrated arts, culture and lifestyle precinct.

 Defines district into key identity zones according to their layout





Programming









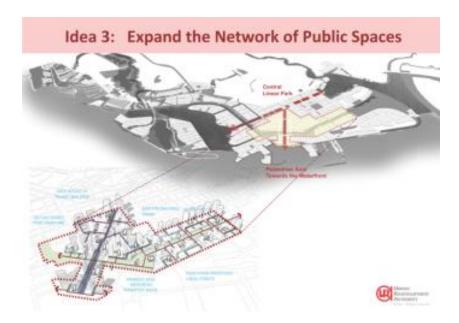
Phase 3: Greater Southern Waterfront

1,000 hectares of land for development after 2030 after relocation of port terminals



Greater Southern Waterfront

Idea 2: Extend the City to Greater Southern Waterfront

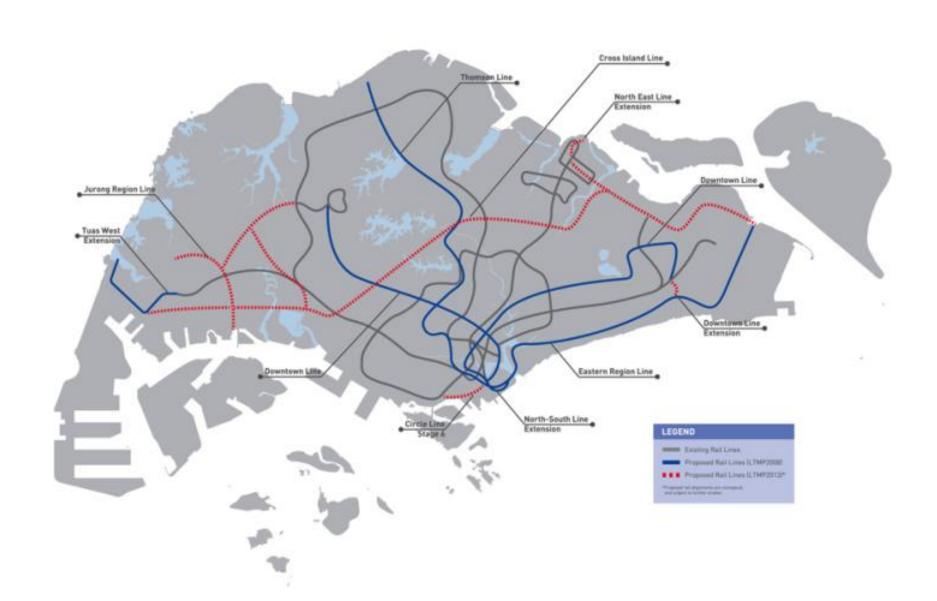




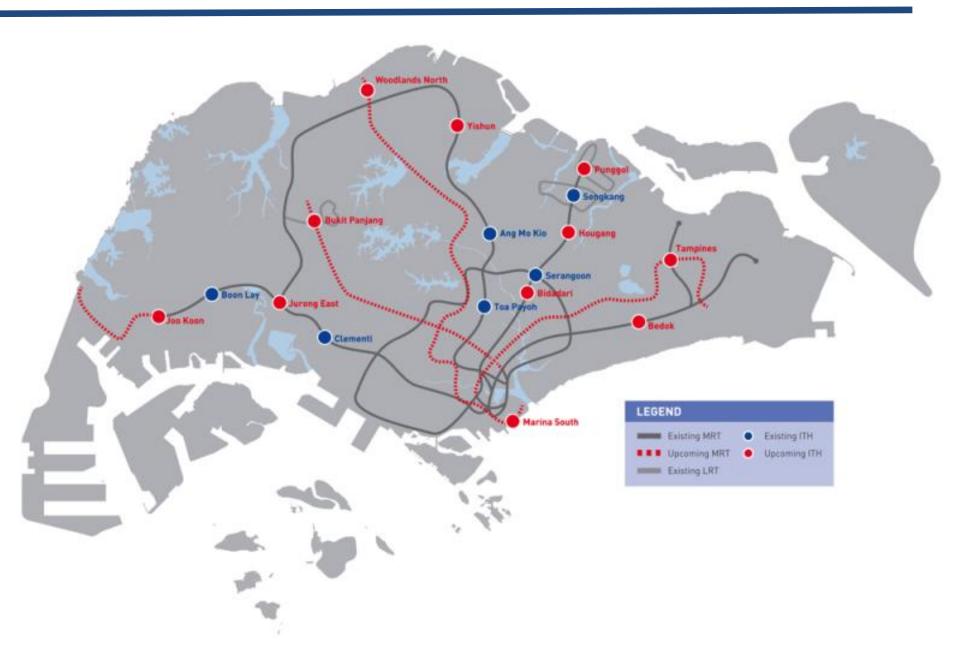
Integrated Transport Planning

- 01 Concept Plan
- **02** Master Plan
- 03 Integrated Transport Planning
- 04 Urban Design Controls
- 05 Conservation

Land Transport Master Plan

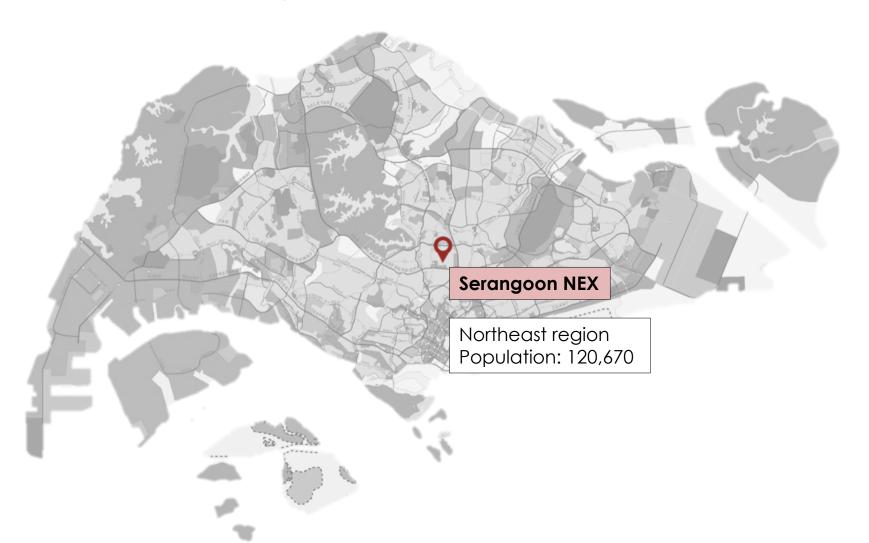


Integrated Transport Hubs

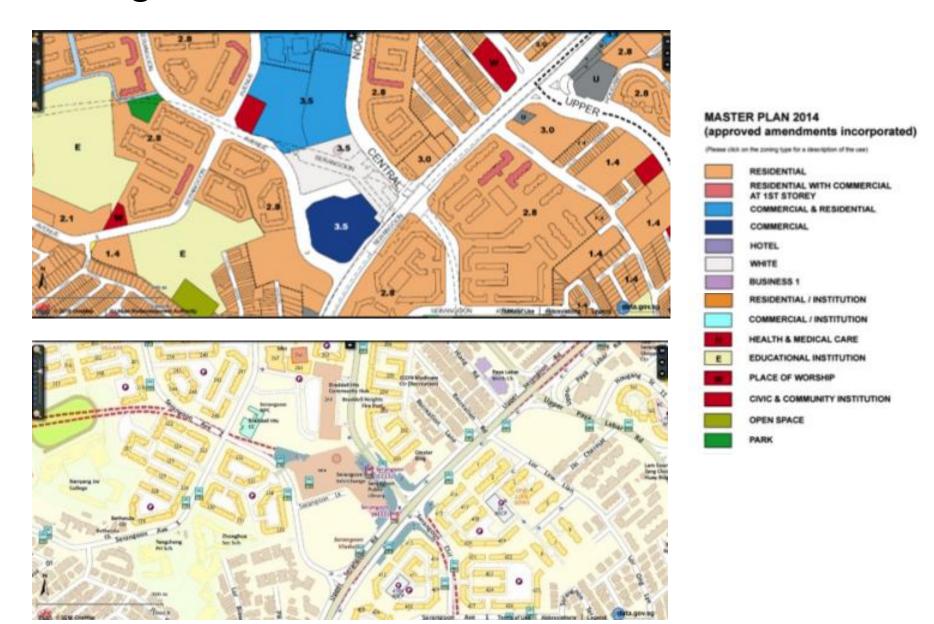


Integrated Developments

Multi-modal Hubs: Serangoon NEX



Serangoon New Town

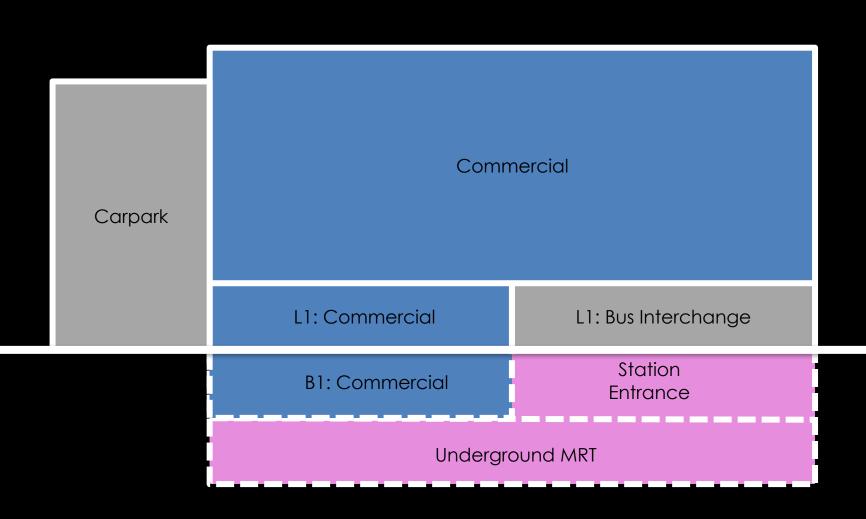


Serangoon NEX



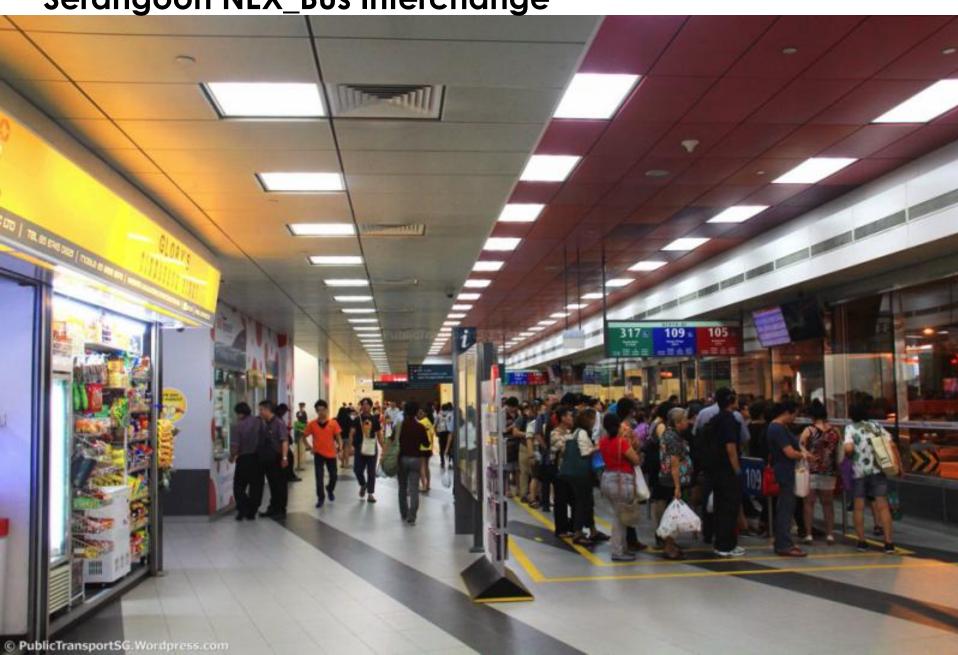
Serangoon NEX







Serangoon NEX_Bus Interchange



Serangoon NEX_Bus Interchange



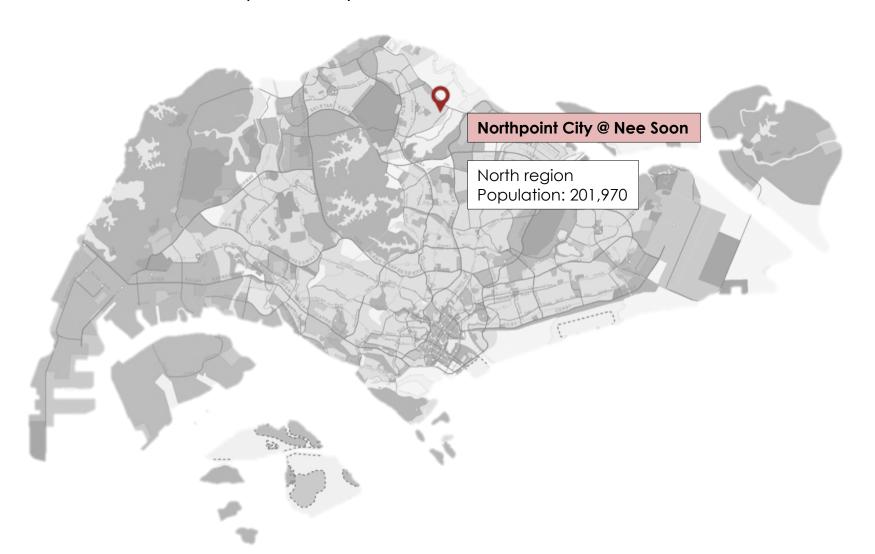
Serangoon NEX_Underground MRT



Interchange for Circle Line and Northeast Line

Integrated Developments

Multi-modal Hubs: Northpoint City at Nee Soon



Yishun New Town





MASTER PLAN 2014 (approved amendments incorporated) (Please (Rick on the poring type for a description of the case) RESIDENTIAL





Northpoint City at Nee Soon



Northpoint City at Nee Soon

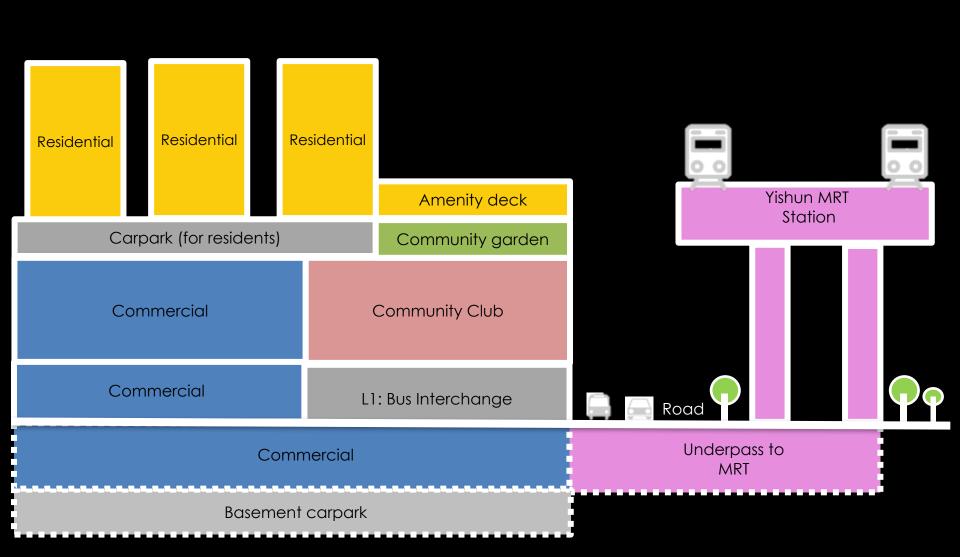


Northpoint City at Nee Soon



- 1 RETAIL UNDERPASS TO YISHUN MRT
- EXISTING UNDERPASS AT NORTHPOINT SHOPPING CENTRE
- (BASEMENT 1 RETAIL
- @ CONCOURSE LANDSCAPED ATRIUM
- (1) LEVEL 2 LINKAGE ABOVE CONCOURSE

- (4) LEVEL 1 RETAIL FLOOR
- @ LEVEL 2 RETAIL FLOOR
- COMMUNITY GARDEN
- BASEMENT 1 CARPARK
- @ INTERGRATED BUS INTERCHANGE
- (1) NORTHPOINT SHOPPING CENTRE CARPARK
- @ REFURBISHED NORTHPOINT SHOPPING CENTRE
- 10 NORTH PARK RESIDENTIAL TOWERS
- @ RESIDENTIAL AMENITIES DECK
- @ RESIDENTIAL CARPARK FLOOR



Urban Design Controls

- 01 Concept Plan
- **02** Master Plan
- 03 Integrated Transport Planning
- **04** Urban Design Controls
- 05 Conservation

Importance of Urban Design

 Buildings are usually built to the full site potential (i.e. maximum GPR) to optimize the land value.

Urban Design

- refines the overall land use plan.
- guides developments to relates to surrounding.
- safeguards spaces for cultural and leisure activities
- enhances the quality, aesthetic and character of the built environment
- shapes a dynamic, distinctive and delightful city

Key Urban Design Elements



Urban Pattern



Building Form



Streetscape



Skyline



Landmark



Open Spaces



Skyrise Greenery



Roofscape



Pedestrian Network



Vehicular Access

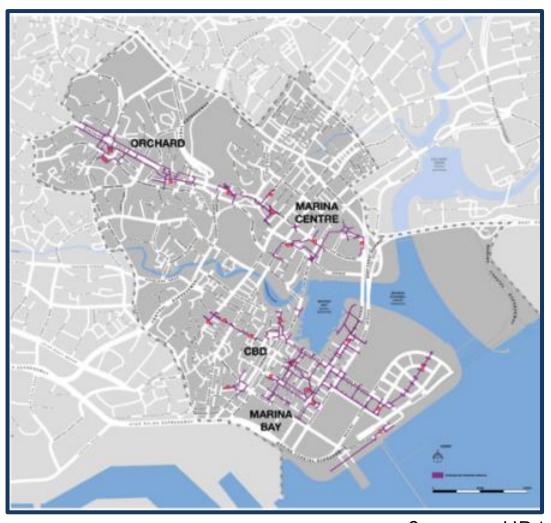


Night Lighting



Scenic

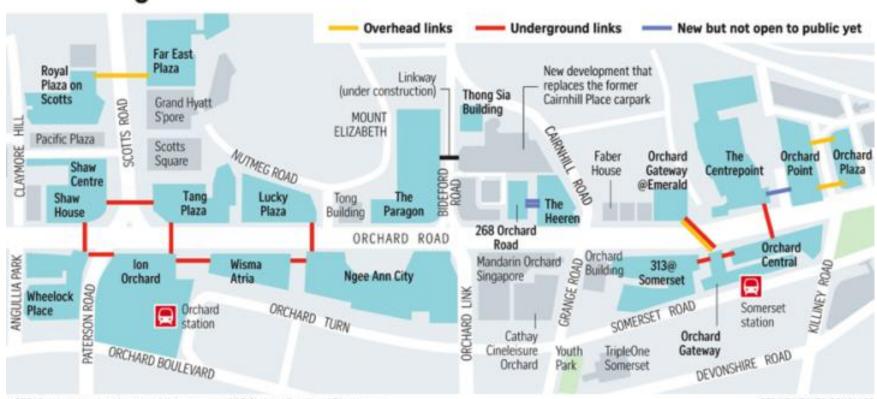
Central Area Underground Pedestrian Network



Source: URA

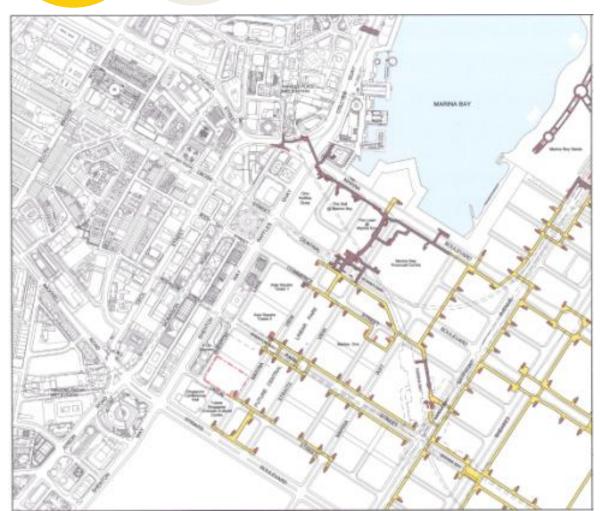


The underground web



Pedestrian Network

Case study: Raffles Place



ONE RAFFLES DUAY)

Underground passageway beneath One Raffles Quay



Marina Bay Link Mall

Source: URA





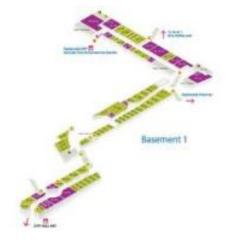
CityLink Mall



Raffles Place MRT underpass



Marina Bay Link Mall



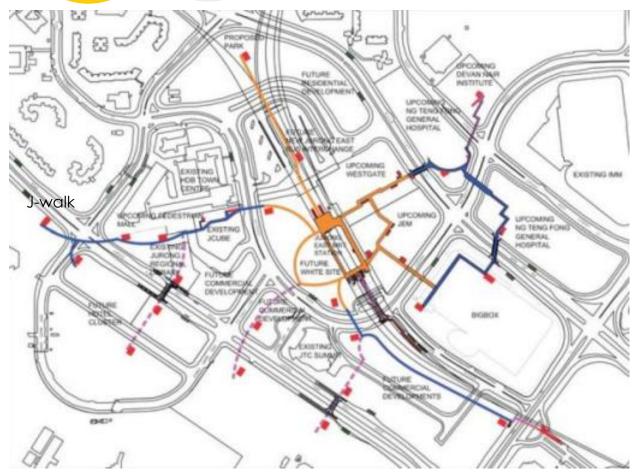
Map of CityLink Mall



Raffles Place MRT underpass plan



Map of Marina Bay Link Mall





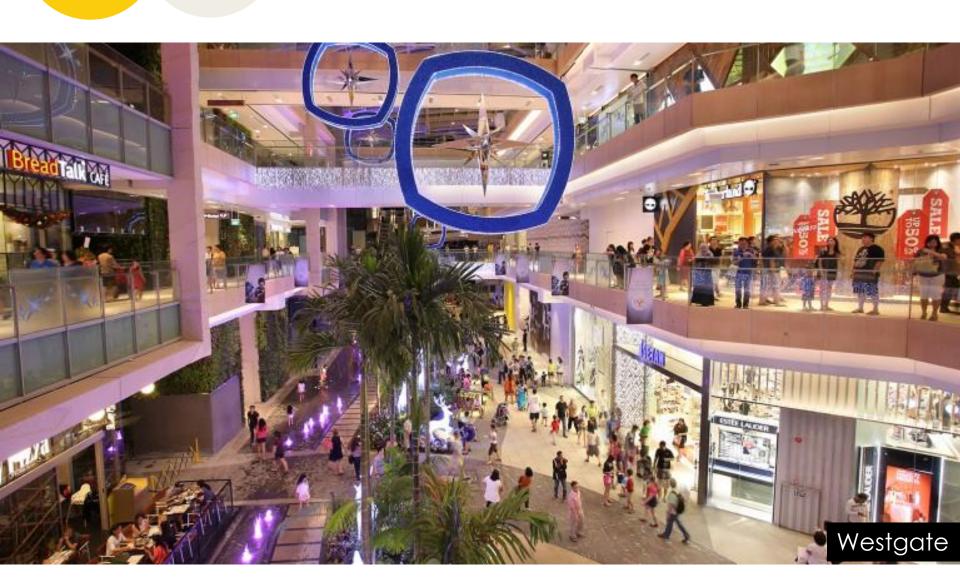


Map of J-walk elevated pedestrian network

J-walk

Pedestrian Network

Case study: Jurong East



Conservation

- **01** Concept Plan
- **02** Master Plan
- 03 Integrated Transport Planning
- 04 Urban Design Controls
- 05 Conservation

Why do we conserve?

A nation must have a memory to give it a sense of cohesion, continuity and identity. The longer the past, the greater the awareness of a nation's identity.....a sense of common history is what provides the links to hold together a people who came from the four corners of the earth.

S Rajaratnam Former Senior Minister Prime Minister's Office 1986

What is Conservation to a Nation?

- Retain our Valuable Built Heritage
- Reinforces a sense of rootedness & identity
- Contributes to Distinctiveness of Our City
- Conservation Areas are also Attractions



ARCHITECTURAL MERITS

Representative of a particular period

 Exhibits particular aesthetic, creative or technical qualities in design, construction technology or use of

material



1819-1919 Immigrant Settlement

1920-1940 Cosmopolitan City

1941-1965 Post-War and Nation Bldg

1965 OnwardsPost Independence

































Criteria for conservation



HISTORICAL SIGNIFICANCE



RARITY



CONTRIBUTIONS TO THE ENVIRONMENT



IDENTITY



ECONOMIC IMPACT

Difficulties faced

- Anger and resistance from owners who wished to demolish the old buildings on prime land to sell or to redevelop for profits
- Engineers did not want the hassle of refurbishing or preserving old structures and building elements
- Landlords/owners were not incentivized to do up dilapidated buildings due to Rent Control Act







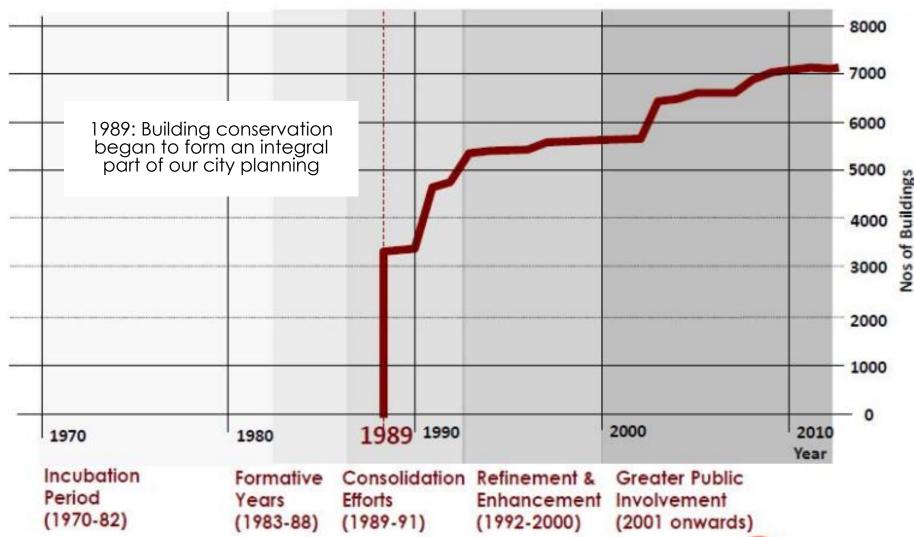


Enabling efforts of conservation

1989: Appointing URA as the Conservation Authority



Singapore's Conservation Efforts



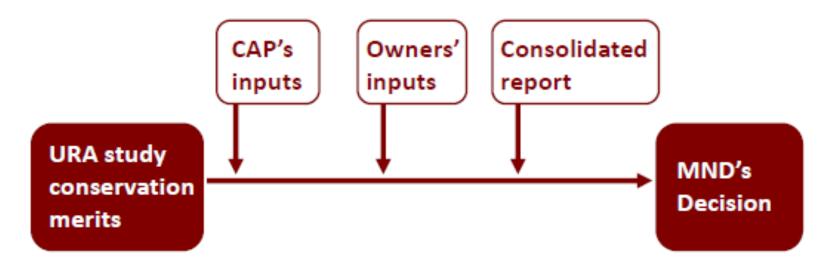


How are buildings selected?

Formation of Conservation Advisory Panel (CAP) i.e. Independent panel to advise on Singapore's building conservation efforts

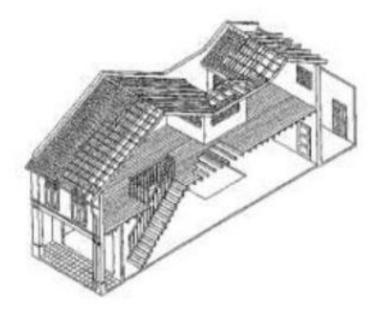
- Give inputs on built heritage proposals
- Promote greater public understanding
- Propose buildings for study

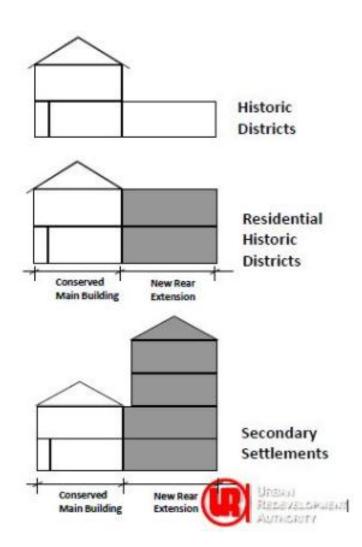
Conservation Study Process



Balance of Conservation & Economic Needs

- Highest priority to retain historical buildings while allowing changes and urbanisation to surroundings
- Allow adaptive re-use of old buildings: a balanced & market-orientated approach to approve proposed use
- Provide guidelines to allow creative solutions to optimise use of sites (refer to illustrations)
- Lifting of Rent Control Act to incentivise conservation



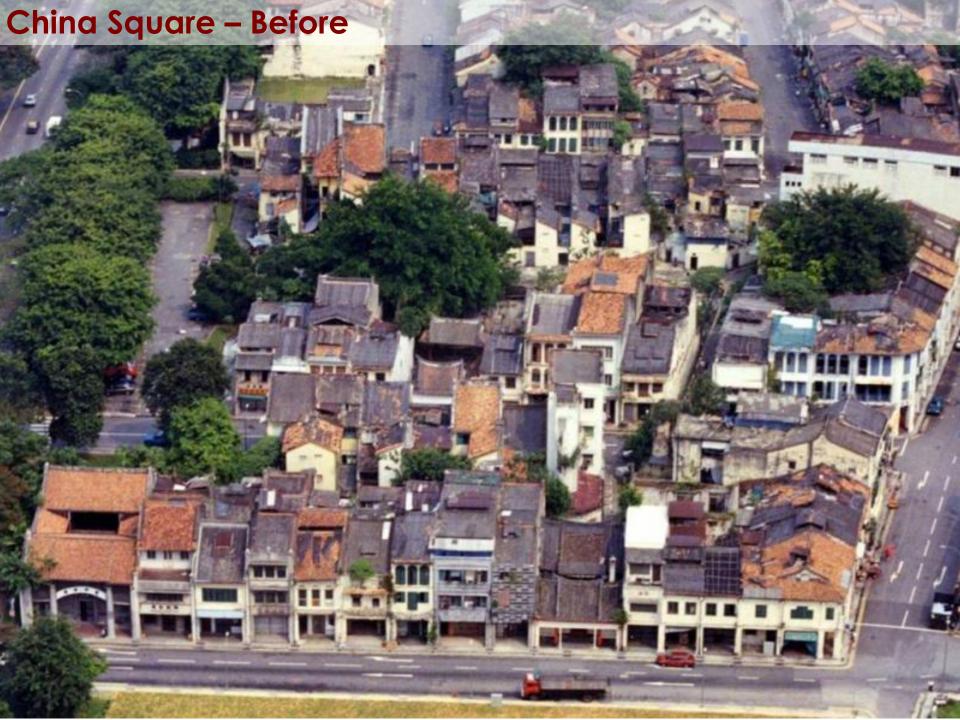


REVITALIZING A HISTORIC AREA



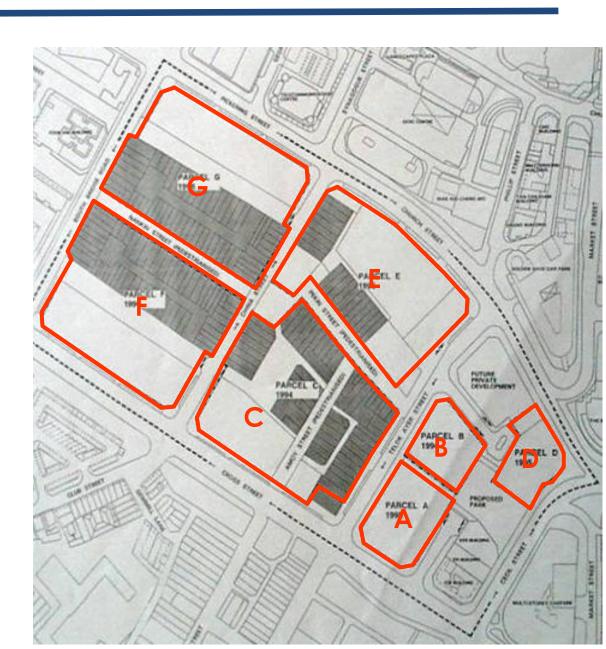
CHINA SQUARE

A NEW CHAPTER



Sale of Sites

- Identify the most valuable street blocks to be kept
- Divided into 7 parcels for sale in phases by open tender



A NEW CHAPTER

THE CHINA SQUARE CONCEPT PLAN



A UNIQUE MIX OF OLD AND NEW







THE CONCEPT

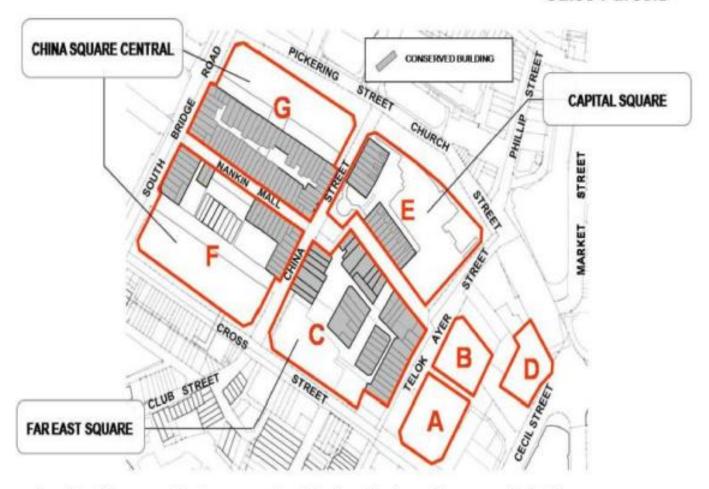
- An exciting and vibrant area, forming a transition between Chinatown, Singapore River and the CBD
- An important node along the future axis leading to the new Downtown
- A vital link in the pedestrian route from New Bridge Road to Cecil Street
- A source of new commercial and hotel space in an excellent location
- An interesting mixture of urban forms, creating a unique blend of old and new
- A centre of activity both day and night, offering a wide range of shopping and eating

Urban Design



- High rise 30-storey developments closer to CBD
- High rise 15-storey edge
- Low rise spine of conserved buildings
- Central pedestrian mall
- Underpasses

Sales Parcels



Four sites with conserved shophouses were bought by three developers. They are now Far East Square, Capital Square and China Square Central.



Achievements of URA's Conservation Programme

- Legal Protection & revitalisation of majority of pre-WW2 buildings
- Enthusiastic private sector participation
- Adoption of good restoration practice by many owners
- Widespread public buy-in through consultative approach
- Increasing public awareness



Source: Jeffrey Teo

