

From Vision to Reality

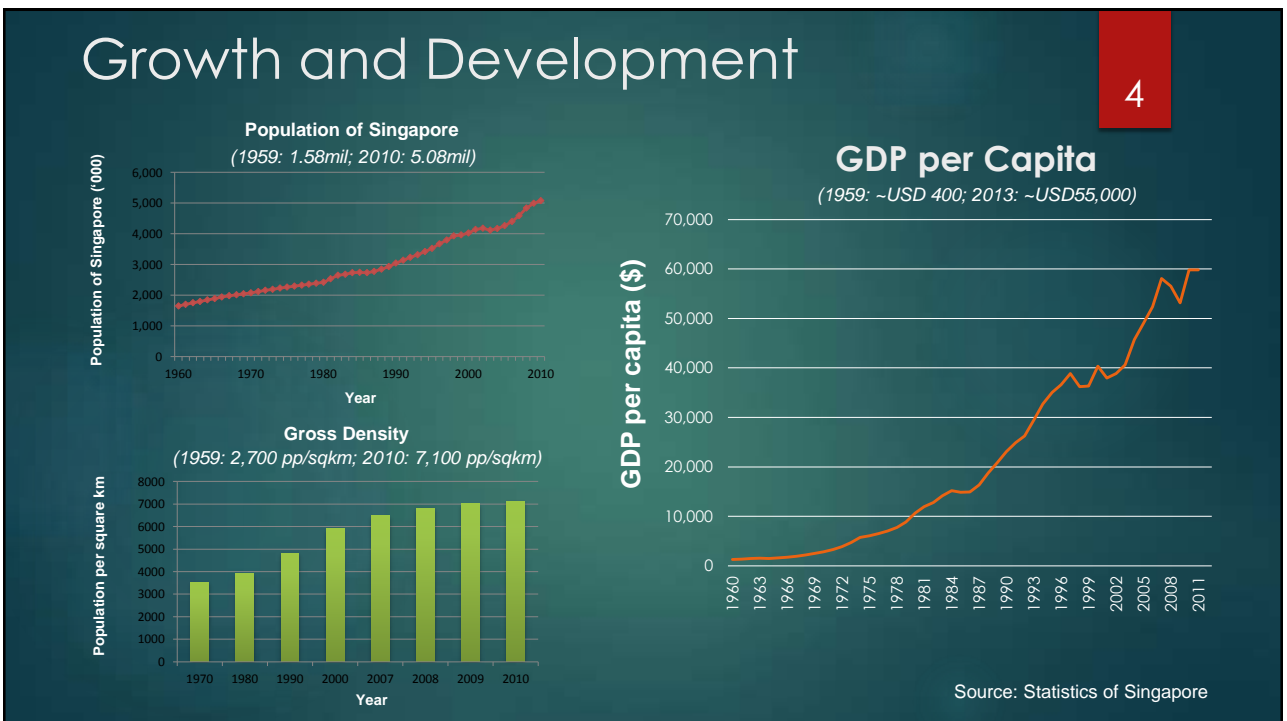
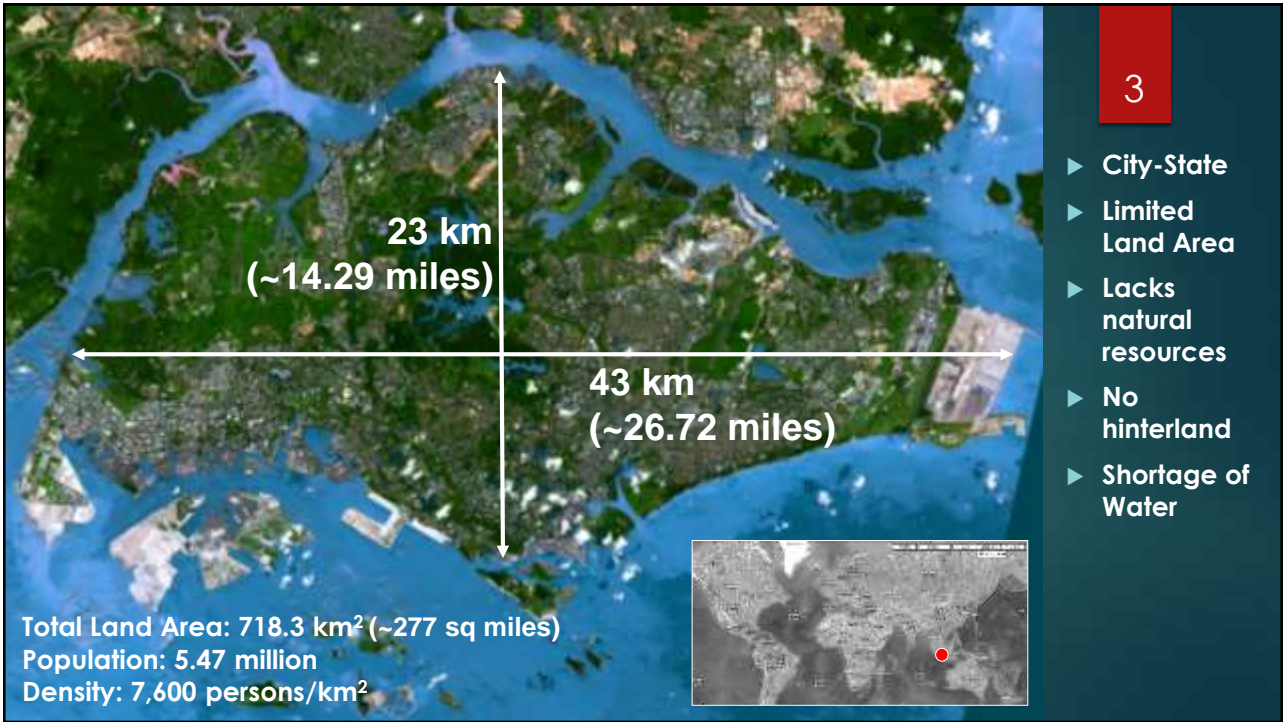
Singapore's Experience in Realizing Transit-Oriented Development through Integrated Planning

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MARCH 16, 2015

Outline

- ▶ The Singapore Context
- ▶ Singapore's Integrated Urban Planning and Development Process
- ▶ Planning tools to facilitate TOD implementation
- ▶ Case study @ site level - Tanjong Pagar
- ▶ Conclusions

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Growth and Development

1960s

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Challenges:

- Acute housing shortage
- Poor living conditions
- Overcrowding in city
- High unemployment ~10%
- Traffic congestion
- Inadequate infrastructure

Growth and Development

Now

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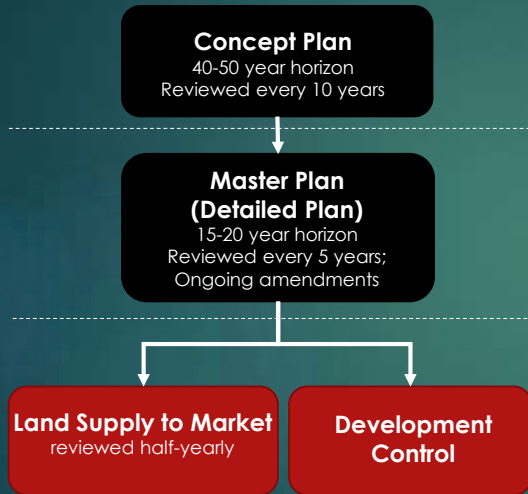


Key Strategies:

- Integrated, Long-term planning
- Affordable housing provision
- Intensive industrialization for job creation
- Infrastructure development
- Central area development

Urban Planning and Development Process

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Long-term strategic planning

- Spatial structure with broad land use allocation
- Population & Employment distribution broadly determined
- Strategic transportation plans developed to meet projected needs.

Detailed Planning

- Landuse Staging Plan guiding physical development (eg. land use, intensity, UD etc.)
- Incorporate flexible zoning & incentives - private-sector responsive
- Safeguards land for infrastructure eg. transport
- Transport & Land use - integration arrangements and implementation plans

Implementation & Management

- Land supply planned in tandem with market demand and cycles and allow flexibility;
- Developers & land owners can seek changes to planning parameters at on-going basis, based on merits of proposal & through due process

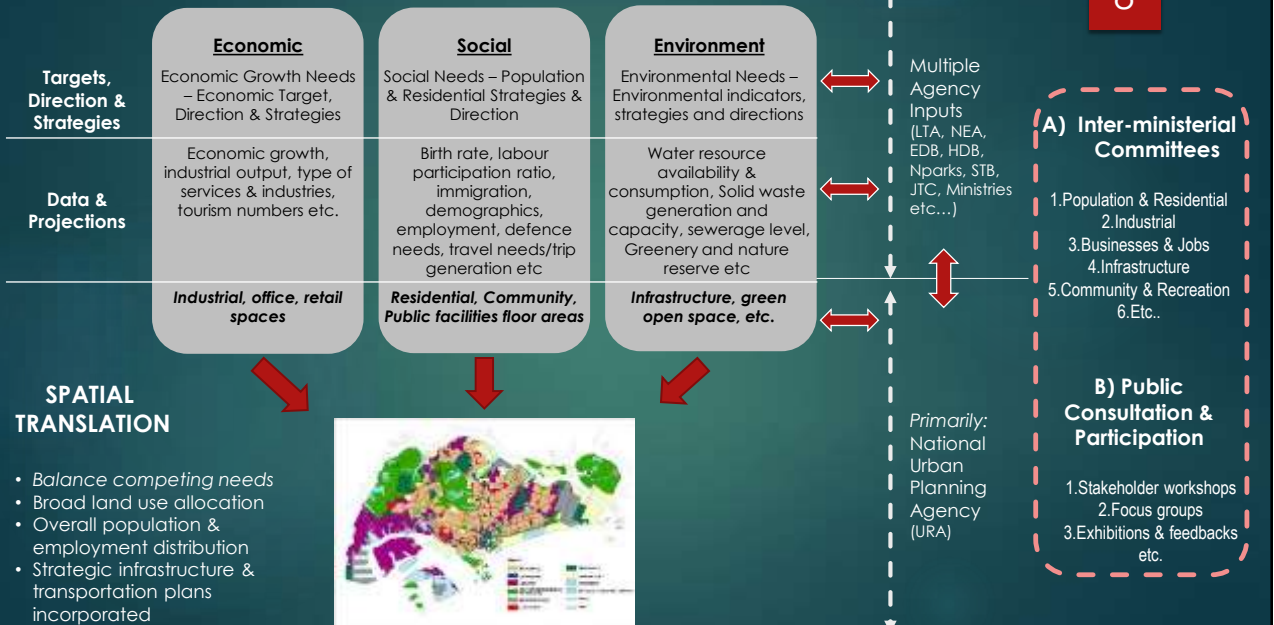
Long term & Integrated Planning

Market Responsiveness

Objectives: Safeguard Public Interest, Guide Growth, Coordinate Infrastructure & Create Land Value

Formulation of Concept Plan

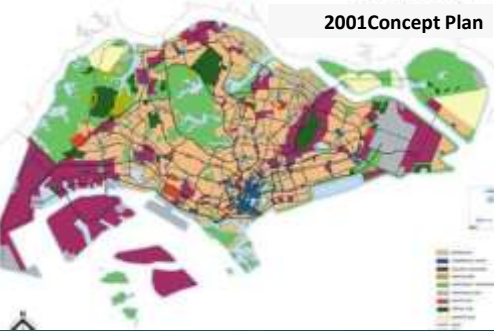
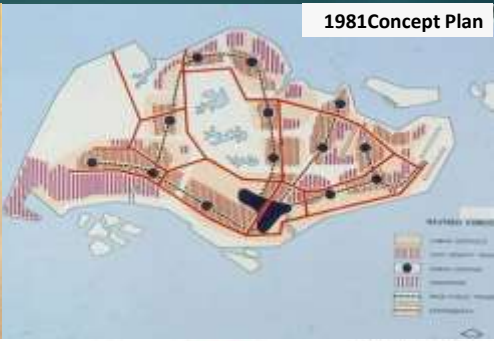
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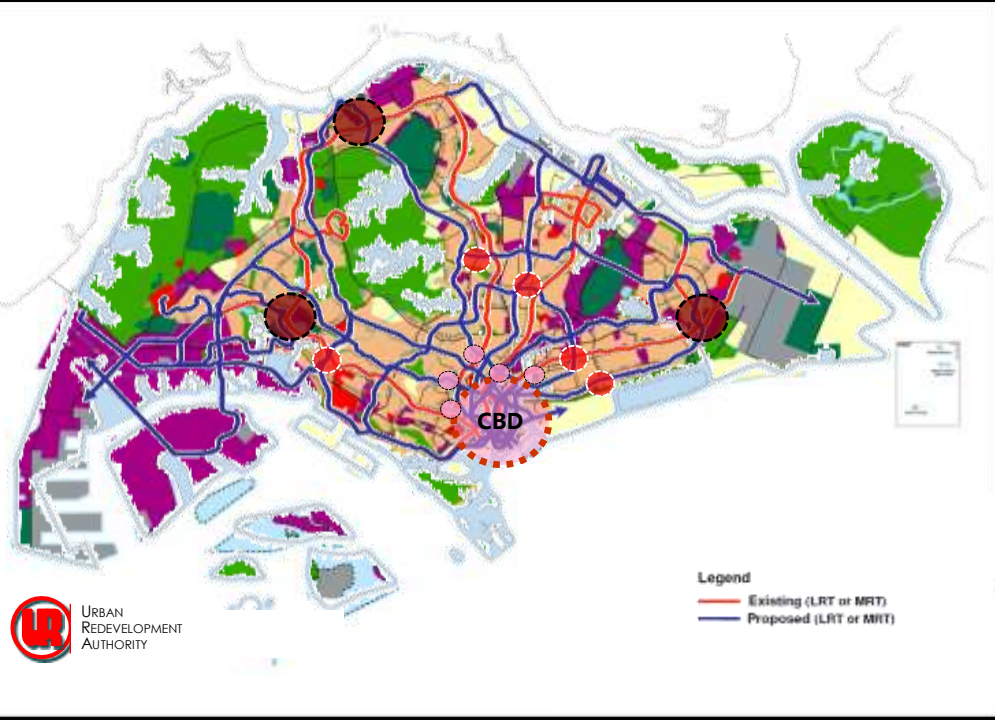


highly transit-oriented



Continuity in strategic direction and structure plan; refined & adjusted over time

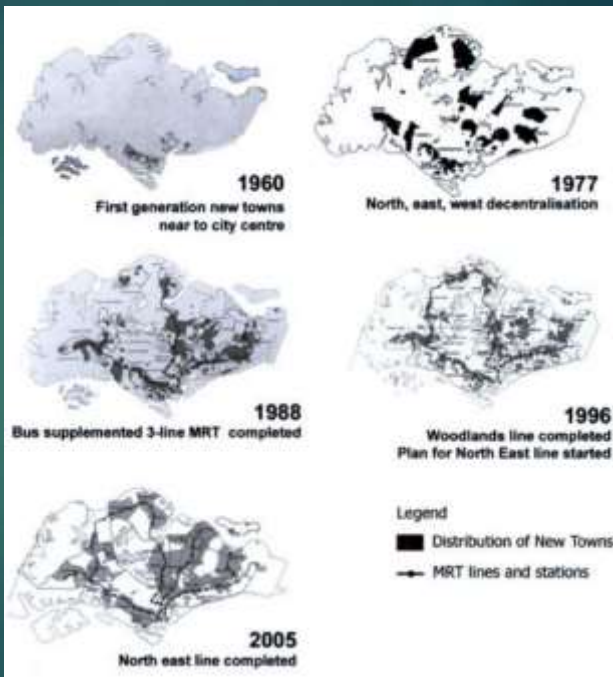
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Transit-Oriented Strategic Planning

Matching Development Centers with Transport Infrastructure in Strategic Plan

Morphological Relationship of New Towns and MRT, 1960-2005



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Source: An Asian Model of TOD; Compiled from HDB Annual Reports, 1960 to 2005;

Concept Plan Translated to Master Plan



Concept Plan

Strategic
Positioning
Intention



Master Plan (Detailed Plan)

Guidance
Detailed Parameters
Implementation

- Legal backing to facilitate enforcement
- Transparency for private developments
- Integration and implementation of infrastructure

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Detailed Planning for TOD

Master Plan

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Concept Plan

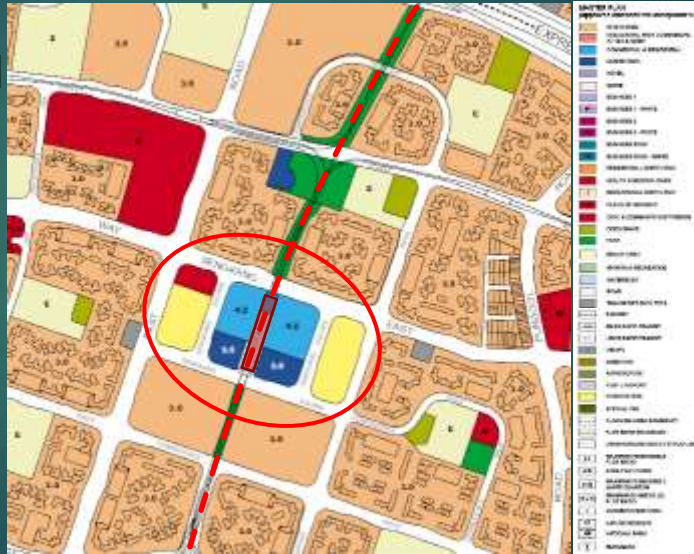


Detailed Planning for TOD

Higher Plot Ratio & appropriate mixed uses around transit station

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Higher Density Context



Sengkang Integrated Transit Station

Detailed Planning for TOD

Higher Plot Ratio & appropriate mixed uses around transit station

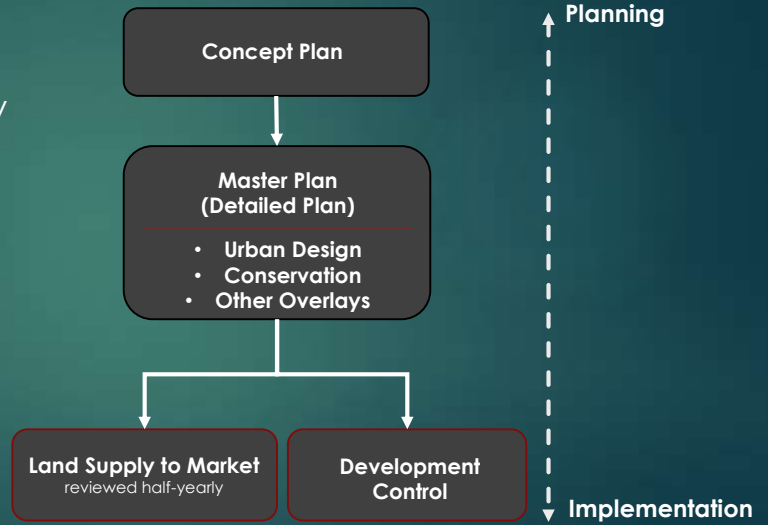
Lower Density Context



Kovan Transit Node

Implementation Tools

- ▶ Urban Design
- ▶ Government Land Supply
- ▶ Development Control



Urban Design

The art and science of planning concerned with the 3-dimensional form of the city and its public realm to make the city a liveable and enjoyable place.

- The relationships and spaces between buildings, and the streets that they front.
- It considers the people that make use of them, and their experience of moving within the city.
- Good urban design fill in gaps of private sector, enhances the function and experience of the city, increase property value and improves quality of life.

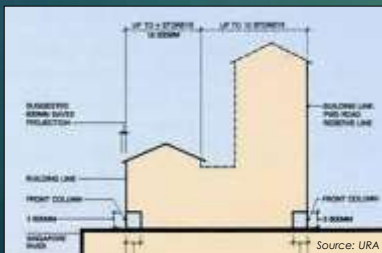
1. Urban Pattern	Structure of a city's fabric Urban Fabric & Grain (Elements: Blocks, edges, public nodes, landmarks)	
2. Building Form	Interrelated with Density, Building Height, Natural Elements, District Character, Viewing Corridors etc.	
3. Open Space	Reinforces urban pattern Provides landmarks for orientation Provide relief and resting spaces Provide events & celebrations spaces Encourage social interactions	
4. Pedestrian Network	Reinforces Urban Pattern Connects Open Spaces & Developments Encourages movement Encourages use of public transport Enhances street life	
5. Vehicular Access	Integrated Design - Entrance Threshold Away from heavy traffic flow Minimal obstruction to pedestrian network Discreet entrance Clear signage	
6. Streetscape	Building edge or porosity Contribution to open spaces & pedestrian network Activities & programming Architectural interest & facade articulation Landscaping & lighting Selective use of signage & materials	
7. Roofscape	Roof articulation & architectural integration Greenery & public uses Well-maintained services Night lighting	
8. Night Lighting	Safety Promote a congenial, harmonious built environment	

Urban Design – Building Form

Relating to Context

Envelope control in relation to context (eg river) and heritage buildings

- Max 4 sty fronting river
- Max 10 sty away from river



Urban Design – Building Form

Relating to Density - High density skyscrapers around MRT stations

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Urban Design – Pedestrian Network

Multiple-level Linkages

Provide seamless integration & connectivity around MRT stations

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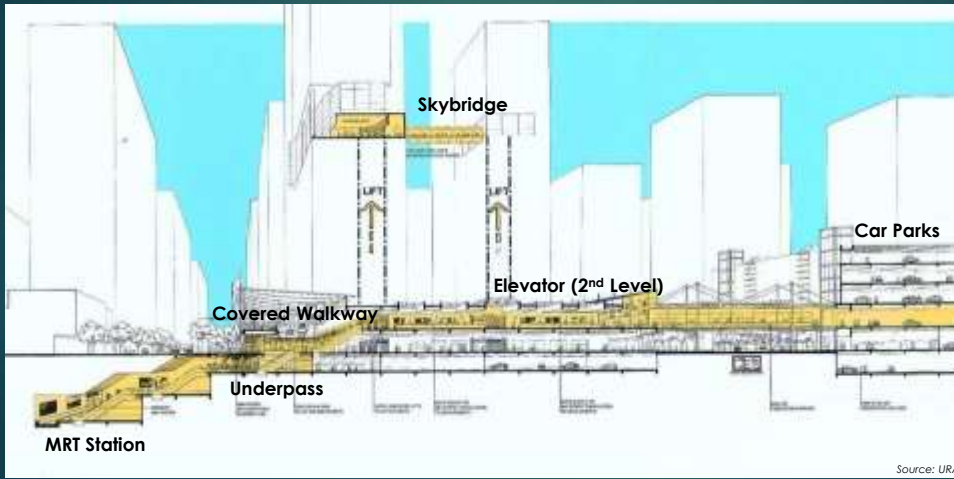


Marina Bay New City Center Integrated Exchange

Urban Design – Pedestrian Network

Multiple-level Linkages

Provide seamless integration & connectivity around MRT stations



Marina Bay New City Center Integrated Exchange

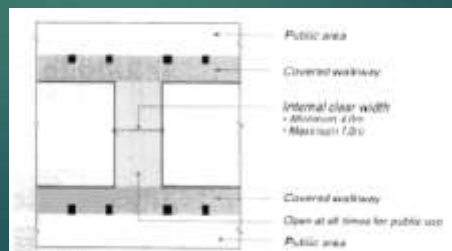
Source: URA

Source: URA

Urban Design – Pedestrian Network

Through Block Links

- Encourage visual porosity
- Ensures 24-hr public connection through private areas



Government Land Supply

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Objectives

- ▶ Important implementation mechanism for key development plans
- ▶ To realize other key planning objectives (eg. enable TOD & increase ridership; encourage inner-city living)
- ▶ Meet private sector demand and support the economy



Government Land Sales (GLS) Process

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Government Land Sales Process - *Confirmed and Reserve Lists*

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Confirmed List

- Sites are fixed for sale at a pre-determined date which is confirmed when the sale programme is announced

Reserve List

- Sites are launched for sale only if someone makes an application for it
- The minimum price committed must meet government's reserve price
- Reserve List allows more supply to be provided if demand exceeds Confirmed List supply
- Elastic or market-led supply; private-sector responsive

Building in Flexibility in Supply

- ▶ Economic and market conditions are uncertain
- ▶ Flexibility in supply strategy needed
- ▶ Confirmed and Reserve Lists approach

Government Land Sales Process - *Confirmed and Reserve Lists*

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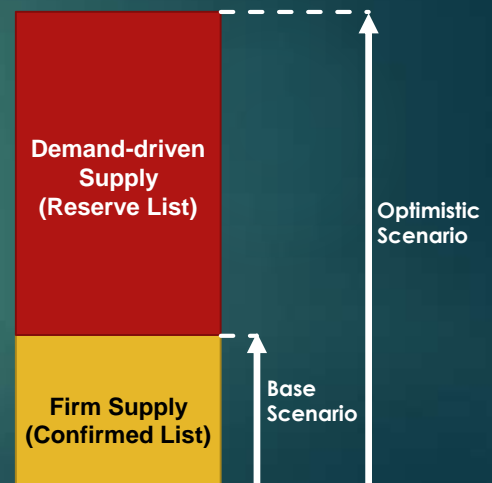
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Market Led Land Supply Model (simplified)



Land Sale Conditions - to achieve planning objectives

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SALE OF SITE FOR WHITE SITE DEVELOPMENT LAND PARCEL AT PECK SEAH STREET - CHOON GUAN STREET TECHNICAL CONDITIONS OF TENDER			SALE OF SITE FOR WHITE SITE DEVELOPMENT LAND PARCEL AT PECK SEAH STREET - CHOON GUAN STREET CONDITIONS AND REQUIREMENTS OF RELEVANT COMPETENT AUTHORITIES AND PUBLIC UTILITY LICENSERS (FOR INFORMATION OF TENDERERS)		
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			ANNEX B - LAND TRANSPORT AUTHORITY (LTA) TECHNICAL REQUIREMENTS FOR THE LDP DEVELOPMENT SITE AT PECK SEAH STREET (PART) AT CHOON GUAN STREET/ ANGKOR ROAD (LITTLE STREET) AND PECK SEAH STREET		
			ANNEX C - TRAFFIC PLAN AND SECTION - LTA LANDING PLAN		

1. Clarity and transparency
2. Developers have clear understanding before bidding; informed costing
3. A model of PPP

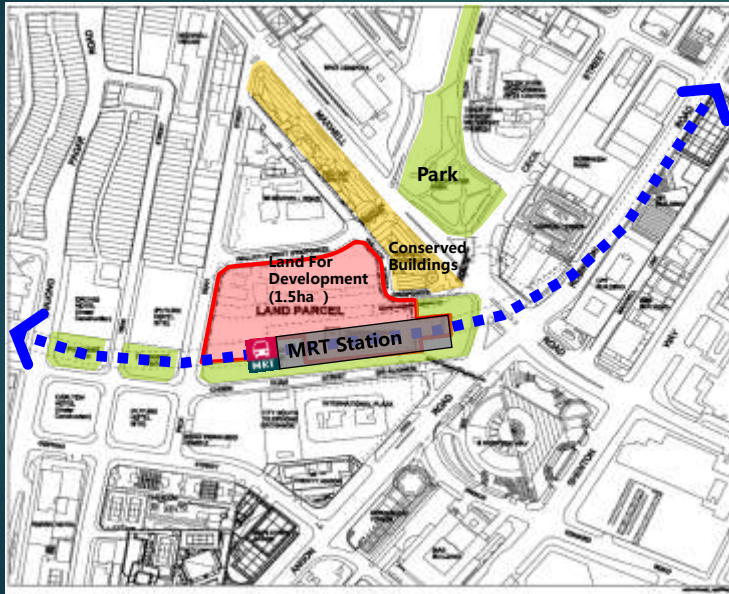
Land Sale Conditions - to achieve planning objectives

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- ▶ Site area
- ▶ Land use
- ▶ Gross Floor Area (GFA)/quantum that can be built
- ▶ Planning and UD requirements, eg height, form, setbacks, pedestrian walkways, conservation
- ▶ Requirements to provide infrastructure and amenities, eg roads, public space, bus stops, tree conservation
- ▶ Diversion requirements, eg electric cables, water pipes
- ▶ Project Completion Period

1. Clarity and transparency
2. Developers have clear understanding before bidding; informed costing
3. A model of PPP

Tanjong Pagar TOD – Planning to Implementation



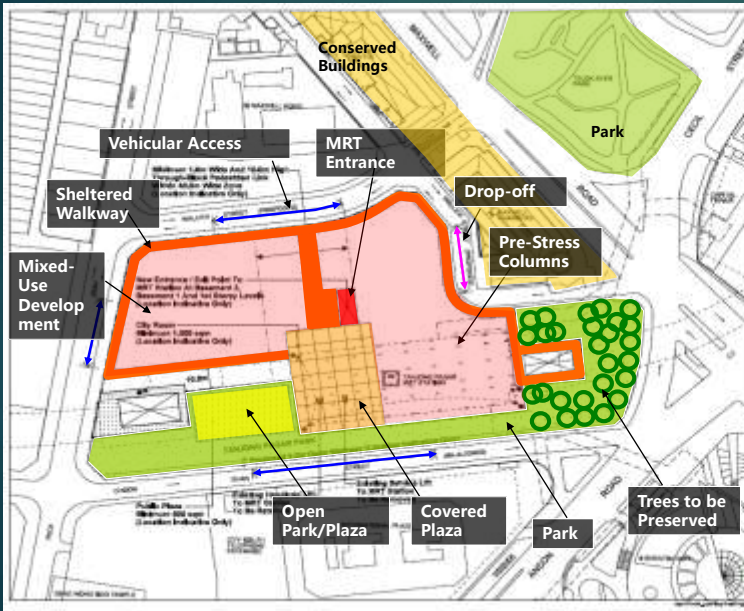
Master Plan



Site Plan

Location Plan

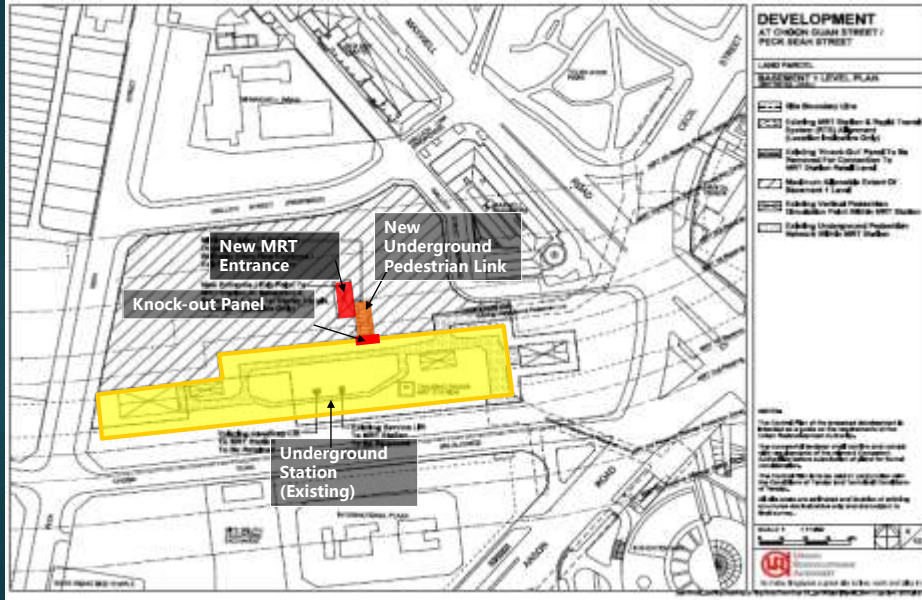
Tanjong Pagar Transit Node



DEVELOPMENT	
AT CIVIC SQUARE STREET / PECK SEAH STREET	
LAND PARCEL	
1ST STOREY URBAN DESIGN PLAN	
①	Site Boundary Line
②	Existing MRT Station & Platform System (T.S. Alignment, Location Indicated Only)
③	Mid-block Lane (Mid-Block Lane) Covered Highway / Lanes
④	Mid-block Lane (Mid-Block Lane) Covered Highway / Lanes (Location & Alignment Indicated Only)
⑤	⑤ All Vehicular Access / Egress For Car Park And Passenger Drop-off / Pick-up To Be Taken From Any Public Along The Lane, Subject To L.T.C. Approval
⑥	⑥ Vehicular Access / Egress For Car Park And Passenger Drop-off / Pick-up To Be Taken From Any Public Along The Lane, Subject To L.T.C. Approval
⑦	⑦ Handicap Drop-off / Pick-up To Be Taken From Any Public Along The Lane, Subject To L.T.C. Approval
⑧	Proposed Vehicular Access
⑨	Reinforcement Of Existing Pedestrian Park By Recreational Hardener
⑩	Existing Trees To Be Retained

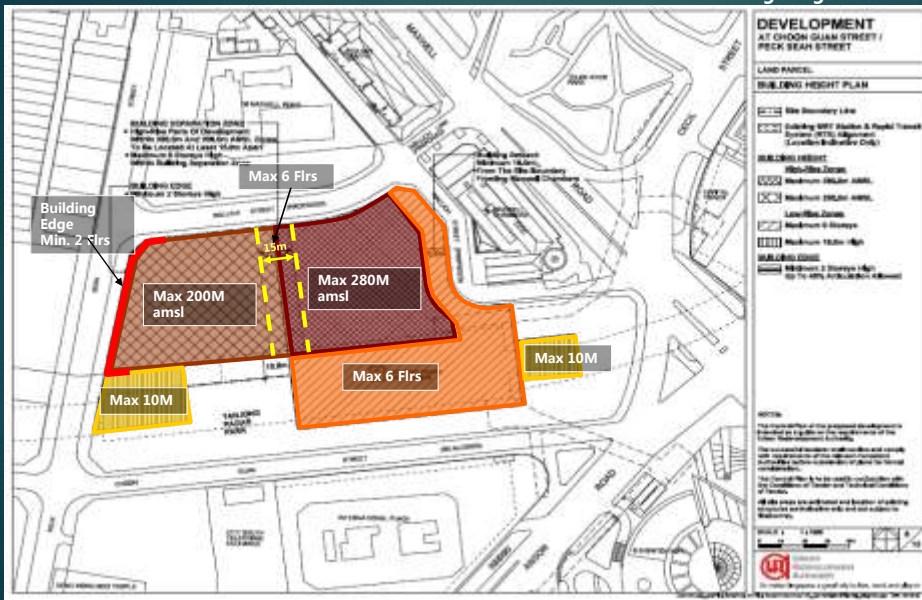
Tanjong Pagar Transit Node

Sub-Level Control Plan



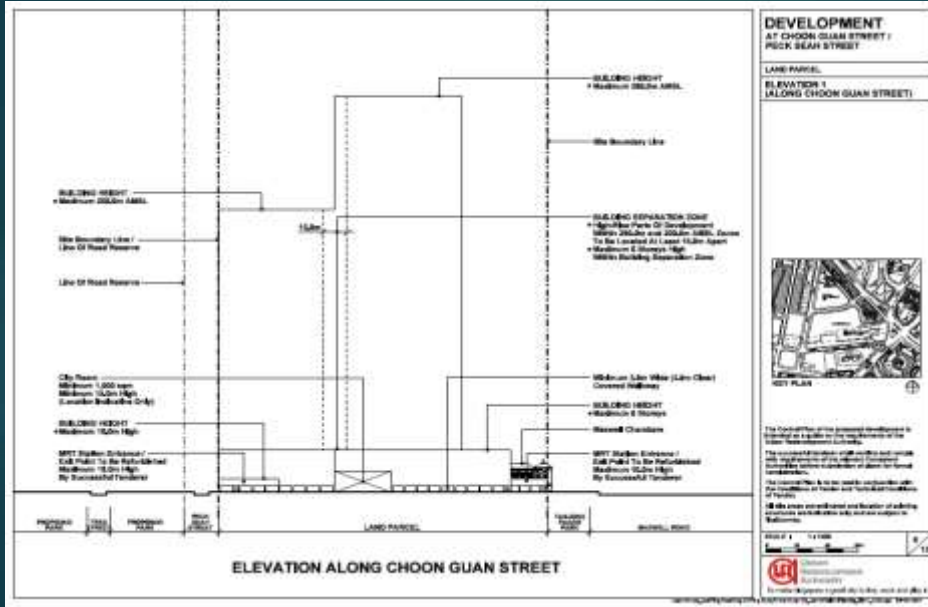
Tanjong Pagar Transit Node

Building Height Control



Tanjong Pagar Transit Node

Elevation Control



Tanjong Pagar Transit Node

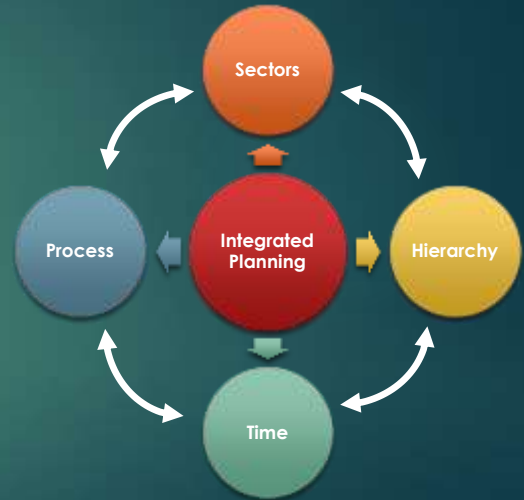


Integrated Planning

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4 Dimensions of Integrated Planning

- ▶ **Hierarchy** – levels of government and levels of planning (macro to micro)
- ▶ **Sectors** – eg. Land Use & Transport (& other infrastructure)
+ Economic, Social and Environmental
+ Public & Private
- ▶ **Process** – planning, implementation, management & enforcement
- ▶ **Time** – continuity in strategy and direction; phasing & coordination



Integrated Planning is Instrumental in Achieving TOD

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Thank you!