Integrated Planning for a Sustainable & Compact City: Singapore’s Experience

World Bank, Washington DC
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Urban Redevelopment Authority, Singapore
Singapore Today

View of the Central Business District
1960s: Severe Housing Problems

- Acute housing shortage: 25% of population lived on 1% of land
- Poor living conditions

Housing conditions in the city
Overcrowding within each housing unit
1960s: Lack of Jobs & Poor Infrastructure

High Unemployment Rate

Poor Infrastructure
Population Growth over the Years

Singapore’s Population Size

Population ('000) vs. Year

Increase of 1 million people every 10 years since 1990
Singapore on the World Map
Land Area: 710 km²
Population: 5.08 million
Density: 7000 pple/km²
Singapore’s Density in Relation to Other Cities

Population & Density Comparison

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<th>Population ('000)</th>
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- Singapore
- Paris
- Hong Kong
- Tokyo
- New York
Our Limitations

- Small City-State
- Limited land area
- No hinterland
- No natural resources
Urban Redevelopment Authority: Singapore’s National Land Use Planning Authority

Mission: To make Singapore a Great Place to Live, Work & Play in.
The Planning Process

Concept Plan

Master Plan

Land Sales

Development Control

Planning

Implementation

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Concept Plan

• Strategic and Long Term Plan
• To ensure that there is sufficient land for the future
Integrated Planning: Multi-Agency Effort
Concept Plan:
Balancing Competing Land Use Needs

- Commerce
- Nature and Greenery
- Industry
- Housing
- Culture and Heritage
- Water treatment & storage
Concept Plan: Planning for Sustainability
The Planning Process

- Concept Plan
- Master Plan
  - Land Sales
  - Development Control
Master Plan: Statutory Land Use Plan

- Shows permissible land use & density
- Detailed & transparent
- Review every 5 years
Co-Location and Integration

Marine Parade Community Club houses different users and tenants which would usually be sited separately.
Master Plan: Economizing on Land Use

Co-Location and Integration

Stormwater Collection Pond integrated with a Secondary School
Master Plan: Economizing on Land Use

Deep Tunnel Sewerage System (DTSS)

- One main water reclamation plant
- Frees up land previously occupied by smaller plants and pumping stations
Use of Underground Space

- Underground rock caverns for storage or utility purposes

Illustration of the Underground Storage Cavern by the Straits Times
The Planning Process

Concept Plan

Master Plan

Land Sales

Development Control
Government Land Sales

- Helps realise planning intentions
- Meet market demand for residential, commercial and industrial developments
- Private-Public Partnership
The Planning Process

- Concept Plan
- Master Plan
- Land Sales
- Development Control
Development Control

- Ensure land and buildings are developed according to planning intentions of the Master Plan
- Evaluate planning submissions and grant planning approvals
- Transparent and clear guidelines
Public Consultation as a part of Planning Process

- Focus Group Sessions
- Public Forums
- Exhibitions
- E-Consultation
Planning Principles and Strategies

- Integrated Land Use & Transport Planning
- A Compact & Transit-Oriented City
- Planning for a Good Quality Living Environment
- Creating a Vibrant City to Support Growth
- Towards a City-in-a-Garden
- Conserving our Built Heritage
Integrated Land Use and Transport Planning

- Planning for land use and transport networks done together
- Clustering high-density developments around public transport nodes

Tampines Regional Centre in the east
A Compact and Transit-Oriented City

High Density Developments Around Major Nodes

Amenities Close to Housing

Schools within walking distance to homes
Extending Singapore’s Metro Network

Source: Land Transport Authority
Planning for a Good Quality Living Environment

- Providing a Variety of Housing Types
- > 90% home ownership

Private Landed Housing  Medium-rise Private Condominiums
High-rise Public Housing  Attractive Waterfront Housing
Planning for a Good Quality Living Environment

- > 80% live in public housing
- 23 New Towns
- Building Homes, Shaping Communities

50-storey public housing

Source: HDB

Scenic waterway through a public housing estate

Source: HDB
Creating a Vibrant City Centre to Support Growth

**Marina Bay: Seamless Growth of the City Centre**

Marina Centre - Convention Hotel Hub

Bayfront today

Central Business District
Events to Activate the Bay

F1 Grand Prix

Youth Olympic Games

Sporting Events
The Greening of Singapore

- 1967 Garden City Movement
- Creating spaces of relief and enjoyment in a high density environment
Garden City to a City-in-a-Garden
Park Connectors

- Connectors to link parks and green spaces
Park Connector Network

- EXISTING PARK CONNECTORS
- NEW PARK CONNECTORS
- ROUND ISLAND LOOP
Protecting Our Biodiversity
Conserving Our Built Heritage
• 3 Historic Districts
• > 90 Conservation Areas
• 7000 Conserved Buildings
Water Resource Management

- Shortage of drinking water supply
- 4 National Taps to provide adequate clean water supply
- 100% sewered
Maintaining a Clean and Green Environment

Integrated Waste Management

- Household garbage collected daily
- Incineration of waste
- Encourage recycling
- Power generation
Factors Facilitating Singapore’s Transformation

- Strong Political Will and Support
- Long term planning
- Comprehensive Process from Planning through to Implementation
- Close co-operation between Government Agencies
- Public buy-in
Sharing our Experiences

Master Planning Projects

• Work with foreign cities to provide advisory services on master planning projects
  – Suzhou Industrial Park, China
  – Tianjin Eco-city, China
  – Durgapur Aerotropolis, West Bengal, India
  – Royal Bafokeng Nation, South Africa
Sharing our Experiences

Training Programmes

- Provide training courses for foreign government officials
- Conducted in Singapore or in their home country
- 4-day Integrated Land Use Planning
- Courses conducted for:
  - Lagos State Government, Nigeria
  - Nanjing Planning Bureau, China
  - African Nations under the Joint UNCRD, JICA & MFA programme
  - Abu Dhabi Municipal Councillors
International Collaborations

Sino-Singapore Tianjin Eco-city

- Government-Government collaboration project
- URA led the Singapore Master Planning team for the Eco-city

Perspectives of the Tianjin Eco-city
LEE KUAN YEW WORLD CITY PRIZE

- Biennial international award
- Recognise individuals and organisations that have made outstanding contributions to the creation of vibrant, liveable and sustainable urban communities around the world
- Recognise individuals and organisations responsible for urban initiatives that display foresight, good governance or innovation in tackling urban challenges faced by cities
- 2010 Laureate: Bilbao City Hall

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Thank You