

GROUND BREAKING

60 Years of National Development
in Singapore





- 1 Oasia Hotel Downtown
- 2 Tanjong Pagar Plaza
- 3 Conserved Tanjong Pagar shophouses
- 4 The Pinnacle@Duxton



GROUND BREAKING

60 Years of National Development
in Singapore

PROJECT LEADS

Joanna Tan
David Ee

ADVISERS

Khoo Teng Chye
Lee Kwong Weng
Michael Koh

RESEARCH & EDITING

Alvin Pang
Stewart Tan
Amit Prakash
Alvin Chua
Pearlwin Koh
Ling Shuyi
Nicholas Oh
Ong Jie Hui
Raynold Toh
Michelle Zhu

DESIGN

Sylvia Sin

PRINTING

Dominie Press



For enquiries, please contact:

The Centre for Liveable Cities

T +65 6645 9560

E CLC-Publications@mnd.gov.sg



Printed on Innotech, an FSC® paper
made from 100% virgin pulp.

First published in 2019

© 2019 Ministry of National Development Singapore

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the copyright owners.

Every effort has been made to trace all sources and copyright holders of news articles, figures and information in this book before publication. If any have been inadvertently overlooked, MND will ensure that full credit is given at the earliest opportunity.

ISBN 978-981-14-3208-8 (print)

ISBN 978-981-14-3209-5 (e-version)

Cover image

View from the rooftop of the Ministry of National Development building, illustrating various stages in Singapore's urban development: conserved traditional shophouses (foreground), HDB blocks at Tanjong Pagar Plaza (centre), modern-day public housing development Pinnacle@Duxton (centre back), and commercial buildings (left). Image courtesy of MND.

Inside cover image

Panoramic view of Singapore's Marina Bay district. Image courtesy of URA.

Acknowledgements

This book incorporates contributions from MND Family agencies, including:

Board of Architects

Building and Construction Authority

Council for Estate Agencies

Housing & Development Board

National Parks Board

Professional Engineers Board

Urban Redevelopment Authority

Contents

8	10	12	28	46	64	80	94	110	134	142	144	150
Foreword	Preface								Timeline	Key Appointment Holders	Notes	Image Credits
												
1819-2019	1959-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2019						
Introduction From Mudflats to Metropolis: 200 Years of Urban Planning in Singapore	Chapter One Laying the Foundations	Chapter Two Scaffolding for a Modern City	Chapter Three From Third World Towards First	Chapter Four Building the Next Lap	Chapter Five A Liveable and Sustainable City	Chapter Six The Future-Ready City						

Foreword



Lawrence Wong

Minister
Ministry of National Development

2019 is a special year for Singapore—it marks our bicentennial year, and also 60 years since the Ministry of National Development (MND) was formed in 1959, when Singapore was granted full internal self-government. MND, like many of our government ministries and statutory boards, is older than the independent state of Singapore. The Ministry's groundwork, done ahead of time, laid the foundation for the nation-state we have today.

When Singapore became independent in 1965, the seeds for Singapore's development had already been sown. MND had built tens of thousands of new flats, pre-empting a housing crisis. Road and sewerage works were underway nationwide. The lush, green city of today traces its beginnings to a tree-planting campaign launched two years before independence.

Over the last six decades, Singapore has transformed from mudflats to a metropolis, delivering on the vision set out by the late Mr Lee Kuan Yew, our founding Prime Minister. MND and its family agencies, including the Building and Construction Authority (BCA), the Council for Estate Agencies (CEA), the Housing & Development Board (HDB), the National Parks Board (NParks), and the Urban Redevelopment Authority (URA), have done our part to help shape the city we have today.

Our work in building Singapore has garnered international attention. In 1992, HDB received the United Nations' World Habitat Award for Tampines New Town, recognising it as an outstanding example of a human settlement project for others to follow. HDB also received the United Nations' Public Service Award in 2008 for its Home Ownership Programme. In 2015, the Singapore Botanic Gardens was inscribed as the country's first UNESCO World Heritage Site. As a city, Singapore has been ranked the most liveable in Asia since 2008 by the Mercer Quality of Living Ranking.

But this book is not simply about how far we have come; it is about how we have fought our way to be here. It chronicles MND's journey, recognising and saluting the hard work done by all our MND family colleagues who came before us.

These urban pioneers were conscious of Singapore's land scarcity and were thoughtful and deliberate in planning for the land use needs of a young nation. They built our public housing, greened our streets, secured our food supplies, and continually reimagined and reshaped the city to meet changing needs and aspirations. It was a responsibility they took seriously and with a deep sense of duty. We are indebted to our urban pioneers, and MND's work today is possible because we are building on their legacy.

MND's mission to make Singapore the best possible home for all Singaporeans is an ongoing process. This has to be sustained with effort, discipline and with a constant adaptation to change. Building a good home requires careful planning, imagination, and hard work, and every member of the MND family plays an important role.

Each generation of MND officers can and must contribute to making Singapore a better, more liveable and more sustainable city for our future generations. Our predecessors began this story, and have passed the baton on to us to carry on. They saw the work they did to plan, build and maintain our nation as a privilege, and so must we. Let us keep working to sustain Singapore as an endearing home, and a distinctive global city.

Preface



Ow Foong Pheng

Permanent Secretary
Ministry of National Development

The Ministry of National Development (MND) is the key government ministry responsible for national land use planning and development in Singapore. We were one of the first of seven ministries established in 1959 when Singapore attained full internal self-government. MND's beginnings were as humble as the nation's—originally operating out of an old block of Singapore Improvement Trust (SIT) flats on Upper Pickering Street, the Ministry only moved into its current premises on Maxwell Road in 1970.

Within the MND family, we work closely with our statutory boards, namely, the Building and Construction Authority (BCA), the Council for Estate Agencies (CEA), the Housing & Development Board (HDB), the National Parks Board (NParks), and the Urban Redevelopment Authority (URA), to achieve MND's vision for Singapore to be "An Endearing Home and a Distinctive Global City". Although the remit of the Ministry has evolved over the years, we continue to focus very much on the development of a liveable and sustainable urban environment for citizens.

The work of the Ministry and its family of agencies is visible all around us, in the places where we live, work and play. For most of the Ministry's 60 years, especially in Singapore's uncertain early years, MND focused on developing the nation's physical infrastructure. Even before the nation gained independence in 1965, amidst

severe overcrowding and unsanitary living conditions in central Singapore, MND's urgent priority was to build homes for people. With a strong mandate and effective action, HDB eased the housing crisis, following which it set out to make Singapore "a property-owning democracy". Today, Singapore can lay claim to a remarkable statistic: more than 90% of Singaporean households own their homes.

Even as we pursued industrial development, keeping Singapore green and lush was also a national priority from the beginning. The "city in a garden" we have today, nurtured by NParks, is something many of us have grown up with and have come to expect. But for a young developing nation in the 1960s, Founding Prime Minister Lee Kuan Yew's vision of greening Singapore was truly radical. For such a small island nation, Singapore now has four nature reserves, more than 350 parks, over 300 km of park connectors, and thriving wildlife and biodiversity.

MND was also tasked with feeding Singapore, under the former agencies Primary Production Department (PPD) and the Agri-Food & Veterinary Authority (AVA). They ensured that our small nation with little to no natural resources could build and maintain a resilient network of food sources from around the world. In 2018, the Global Food Security Index ranked Singapore No. 1, based on the affordability, availability, quality and safety of our food, and the resilience of our food sources.

Singapore today is a highly urban city-state, and many of us live and work in high-rise buildings. BCA regulates the construction industry to enforce the safety, quality and sustainability of the built environment. This is a critical element of our liveability as a city. Hard lessons were learnt from the Hotel New World collapse in 1986. We have taken the lessons to heart as we work to ensure that such a tragedy will not repeat itself. Meanwhile, given the importance of the property market to Singapore, CEA has the important role

of regulating and raising the professionalism of the real estate agency sector, and ensuring that consumers' interest is safeguarded.

Above all, with so many competing land uses for our population of nearly six million people, the need for good planning is paramount. URA's challenge is to optimise every last patch of Singapore's scarce land resources to meet both current and future needs, and map out a long-term strategy for the country's land use.

MND's mission to make Singapore a city with world-class infrastructure continues, but we know that physical elements alone are not enough. To make Singapore the best possible home for Singaporeans, we need to partner and consult with communities and stakeholders, nurture emotional connections between people and the land, build cohesive and resilient communities, and create vibrant and sustainable living environments.

A large part of the Ministry's work is often done at a strategic level and the outcomes may not be immediately visible to the general public. Nonetheless, working behind the scenes in close coordination with the MND family of statutory boards, we strive to improve peoples' lives by guiding the nation's development. We would also like to take this opportunity to give credit to our partners and friends who have contributed their efforts to lay a firm foundation for us to build on. As an MND family, and together with agencies across the Government, we continue to work as a team to further Singapore's national development.

On the occasion of MND's 60th anniversary, this book chronicles the story of Singapore's national development from pre-independence through to the present day, covering key developments and their significance for the nation. As Singapore continues to rejuvenate and transform, the MND family will continue to serve and fulfil the needs of Singaporeans to provide them with the best home.

Introduction

From Mudflats to Metropolis: 200 Years of Urban Planning in Singapore

Khoo Teng Chye, Stewart Tan and Ong Jie Hui

“This country belongs to all of us. We made this country from nothing, from mudflats.”¹

Lee Kuan Yew

Stilt houses of the Orang Laut (sea people or sea gypsies) at Kampong Telok Saga on the north side of Pulau Brani in 1900.



The Colonial Legacy: The First Planners (1819–1959)

Not According to Plan

When Singapore was established as a British trading post on 6 February 1819, Sir Thomas Stamford Raffles entrusted Major William Farquhar, the first Resident of Singapore, with implementing Raffles' vision for the new settlement while he left for Bencoolen. However, when Raffles returned to Singapore in 1822, he found a town that deviated significantly from his original plans. Although Farquhar argued that his decisions were necessary for the economic survival of the fledgling port and to garner local support, he was dismissed as Resident and succeeded by John Crawfurd.

Formalising Raffles' Vision: The Jackson Plan

Raffles attempted to realign the settlement's plan with his vision, through the assistance of a Town Committee comprising Captain

Charles Davies of the Bengal Native Infantry as the president; A.L. Johnston, a European merchant; and civil servant George Bonham, along with a representative from each of the principal classes of Arabs, Malays, Bugis, Javanese and Chinese. The Committee's primary mandate was to resolve the land allocation problem and to demarcate specific quarters for each of their ethnic communities. To assist the Committee, Raffles appointed an officer in the Bengal Regiment Artillery, Lieutenant Philip Jackson, to serve as Assistant Engineer tasked with the responsibility of completing the layout plan according to Raffles' specifications. This led to the publication, in 1828, of Singapore's first town plan, which came to be known as the Jackson Plan.

The Jackson Plan provided for a civic district, a commercial square and a market area, centred on the downtown area from Telok Ayer to Kallang River. It drew inspiration from how other colonial towns were planned.

(Top) Plan of the Town of Singapore by Lieutenant Jackson, 1828.

(Right) A large family, including grandparents and pets, living in cramped conditions in a small hut, 1952.

For example, elements were borrowed from British Calcutta: such as a government fort in the city centre commanding views over strategic locations, and extensive greenery to convey a sense of prosperity.

Like other colonial towns, the Jackson Plan segregated different ethnic communities into enclaves, on the premise that this was integral to maintaining communal harmony. As with British Penang, the Jackson Plan integrated the Indian and Chinese communities into the official town plan—in contrast to British India where the different communities were left to develop on their own. Inhabitants of “higher and more respectable class” were located closer to the port, in line with Raffles' belief that “in allocating lands, first preference should be given to merchants, second to artisans and third to farmers”.²

A key feature of the Jackson Plan was a gridiron system of streets and highways constructed at right angles with standardised widths and a uniform number of houses per street, and each occupying a fixed land area. Space was set aside for a series of connected covered passageways on either side of the street, to facilitate public mobility and offer respite from Singapore's hot tropical climate.

A Town “Permanently on the Sick”³

By the turn of the 20th century, Singapore's resident population had risen exponentially from 10,683 in 1824 to more than 200,000 in the early 1900s, leading to severe overcrowding. Workers on meagre salaries resorted to living in illegal squatter settlements, which were often shophouses partitioned into small, dim and poorly ventilated cubicles. Poor sewerage and drainage systems added to the unsanitary living conditions and exacerbated the spread of diseases such as tuberculosis and other respiratory illnesses.

While the Municipal Commission, formed under the 1887 Municipal Ordinance, took on the role of improving urban facilities such as drains, buildings and street lighting, their efforts were hampered by the worsening overall sanitary conditions towards the close of the 19th century. A 1906 Report on the Sanitation Condition of Singapore by W.J.R. Simpson, a professor of hygiene at King's College London, described one in five residents as being “permanently on the sick”.⁴ Simpson recommended the opening of back lanes to allow more light and natural ventilation into these congested areas. This resulted in the establishment of by-law planning in Singapore and a 1913 Municipal Ordinance that called for the back lane to form the cornerstone of Singapore's building development.

The disease from which Singapore is suffering is Gigantism. A chaotic and unwieldy metropolis has been created, as in other countries, by haphazard and unplanned growth.³

British Housing Committee Report



However, this was not enough to address the city's overcrowded and unsanitary conditions, which continued to deteriorate. While there were pockets of good quality housing within and around the central area—such as villas, black-and-white bungalows and terrace houses, a number of which were later conserved—these were largely built by prominent Chinese businessmen for their families, and by the British for high-ranking officials and civil servants. An estimated 300,000 residents continued to live in semi-permanent shelters in squatter settlements, with another 250,000 crammed into rented partitioned cubicles in old shophouses in the city. It was not uncommon to find five households living within the same shophouse with a family of 10 sharing one room. In 1918, a Housing Commission set up by the colonial government to review the living conditions within Singapore's central area called for the formation of an Improvement Trust to improve the dire housing situation.

Singapore's First Planning Authority: The Singapore Improvement Trust

Heeding the Housing Commission's advice, Singapore's governing administration set up an Improvement Trust under the Municipality. The Trust introduced guidelines for back lanes to cut through adjacent buildings and for open spaces to serve as "lungs" for houses, improving ventilation.

In 1920, almost a century after the Jackson Plan, the Trust's Deputy Chairman, E.P. Richards, called for a new town plan—this time based on detailed surveying and mapping of Singapore's topography and geography—to allow for more efficient urban planning.⁵ He saw this as a vital prerequisite to solving Singapore's housing woes, as "to place housing before town planning is to sew your buttons before you cut out your cloth".⁶ Richards also viewed arterial roads as the "skeleton" of the town plan, which if opened up, would ventilate the island, while zoning was seen as the "flesh" of the plan and a means to prevent further haphazard land utilisation.

By 1924, Richards and his team of surveyors were able to produce a detailed, contoured topographical survey of Singapore.

However, operating under the Housing Commission meant that Richards and the Trust had limited legislative power and manpower. To provide greater legislative bite, the Singapore Improvement Bill and Ordinance were enacted in 1927. This led to the establishment of the Singapore Improvement Trust (SIT), which had a broad mandate to "provide improvement of the town and island of Singapore".⁷

In its first six years, the Trust focused on the planning of new roads and open spaces, and the widening of existing roads under a General Improvement Plan. In subsequent years, the SIT took on the additional responsibilities of acquiring land, providing housing to those displaced by the improvement schemes, enhancing existing houses, and providing communications and traffic facilities as well as sanitation.

(Bottom) The 1958 Master Plan.

(Right) The Central Area Plan in the 1958 Master Plan.



The 1958 Master Plan: Singapore's First Statutory Land Use Blueprint

In 1951, the SIT was tasked with carrying out a diagnostic survey of Singapore to help guide future development plans and ensure that sufficient land was set aside for residential, industrial, commercial and leisure purposes. A three-year study, led by British town planning consultant George Pepler, resulted in the 1955 Preliminary Island Plan. The draft plan, premised on a projected population of two million residents by 1972, was exhibited for six weeks to gather public feedback before being refined into the 1958 Master Plan.⁹

The Master Plan divided the island into three zones: an inner city, a town area and a rural ring. It was designed such that the city could expand in all directions and be serviced by a network of ring and radial roads. It also catered for open spaces, land for recreation and the beautifying of surroundings—ways to ventilate built-up areas and enable residents to spend more time outdoors, given Singapore's tropical climate and overcrowding within the home. Such spaces included the Padang, Botanic Gardens, King George V Park and Queen Elizabeth Walk. Other key proposals included a green belt around the city to curb urban sprawl, three new satellite towns earmarked for Yio Chu Kang, Jurong and Woodlands, new roads and carparks, and housing in peripheral urban areas.

While comprehensive, the resource-strapped SIT was unable to implement the Master Plan, which called for urgent housing, road and land development as well as the demolition of ramshackle and unsafe buildings, all in the face of perennial land scarcity. These plans were only realised after Singapore gained self-government.

These varied roles left the SIT severely short of manpower and resources, and hence, unable to meet its mandate. The situation was exacerbated by the Japanese Occupation during the Second World War, which destroyed already-limited building stocks, and the post-war baby boom that followed.

Conditions deteriorated to the point where a 1948 Report of the Housing Committee labelled Singapore a "disgrace to a civilised community"⁸ and home to one of the world's worst slums. Despite these setbacks, the SIT continued to be saddled with its dual role as both a housing and planning authority.

The Road to Independence: Towards an Action-Oriented, Pragmatic Approach to Urban Planning (1959–60s)

Centralising Authority: Establishment of Key Institutions

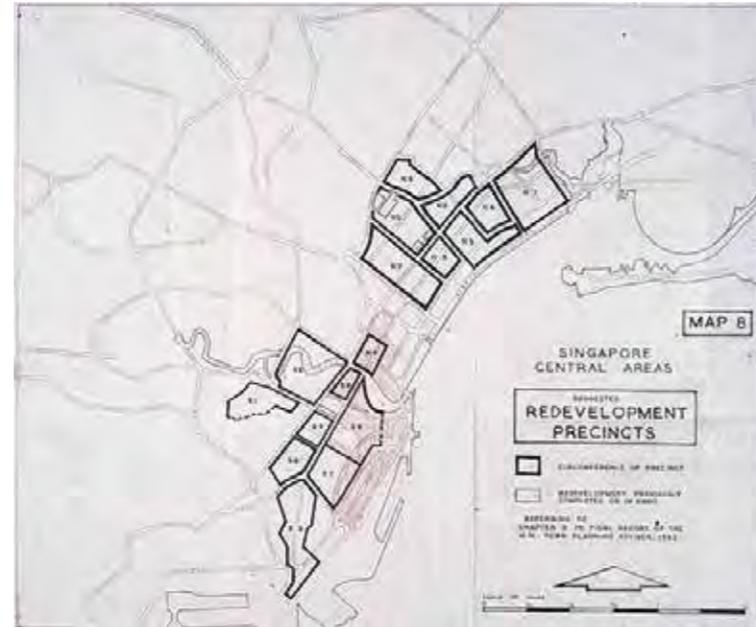
After Singapore attained internal self-government in 1959, the Ministry of National Development (MND) was established to guide national land use, optimise scarce land resources and deliver affordable, quality public housing to the people. MND comprised departments that were previously under the Ministry of Local Government, Land and Housing, Ministry of Communications and Works, the City Council and Rural Board, and the Ministry of Commerce and Industry. PWD, itself formed through the integration of the Public Works and Convicts Department and the Singapore City Council, was also subsumed under MND.

In February 1960, a new Planning Ordinance took effect, replacing the 1927 Singapore Improvement Ordinance. A Planning Department was set up under the Prime Minister's Office (PMO) and given the power to control the development and use of land across Singapore, to safeguard land for new towns, and to redevelop the central area. It also had jurisdiction over roads as well as subway and utility reserves, and was tasked with reviewing and amending the Master Plan every five years.

To streamline the decision-making process for public housing development, the Housing & Development Board (HDB) was formed in 1960 to replace the SIT. HDB was tasked with pushing ahead to clear slums in the Central Area, resettle affected residents and provide housing for the burgeoning population.

Tackling Singapore's Challenges: Urban Renewal with UN Assistance

Faced with entrenched challenges in their efforts at urbanisation, the new government realised that providing public housing alone would not be enough to



improve the poor living conditions in the Central Area. Complicating matters, the majority of the urban planners at that time were British expatriates who had left Singapore following self-governance, leaving behind limited planning expertise in the Planning Department.

As such, the government had to look overseas for technical assistance. They approached the United Nations Development Programme (UNDP), which had been set up to help developing countries improve their urban planning and management.

(Top) The 1962 Lorange Plan.

(Bottom) Koenigsberger's 1963 Ring Plan.

“Increases in land values, because of public development, should not benefit the landowner, but should benefit the community at large.”¹⁰

Lee Kuan Yew

The UNDP dispatched town planning expert Erik Lorange, who worked with a team of local architects to draw up the Lorange Plan in 1962, following a six-month study of the Central Area. Lorange proposed a systemic approach. His plan divided the Central Area into 21 precincts and accorded each precinct developmental priority based on criteria such as land availability, state of deterioration, and the site's potential for boosting economic flow.

A follow-up study was conducted in 1963 by UN experts Otto Koenigsberger (a planner-designer), Charles Abrams (a land expert) and Susumu Kobe (a traffic engineer)—dubbed the K-A-K Team. They argued that Singapore could not wait for a new Master Plan to replace the 1958 plan. An overarching guiding concept was urgently needed to coordinate the various smaller-scale urban development projects that were being undertaken by different agencies across the island. From a series of ideas, plans and sketches exploring alternative strategies, the team recommended adopting Koenigsberger's Ring Plan, which comprised an island-wide ring of self-contained yet interconnected developments. This proposal significantly influenced Singapore's urban planning design from the 1970s onwards.

To implement the K-A-K Team's strategies, an Urban Renewal Unit (URU) was set up within HDB's Building Department in 1964, comprising the local architects who had worked closely with the UN experts on the Lorange and Ring plans. Led by a young

architect-planner named Alan Choe, the tiny unit sought to remake the Central Area into a vibrant commercial hub. At the same time, they also oversaw the planning of new towns and large-scale housing and industrial projects that included Toa Payoh New Town and the Kallang Basin Reclamation Scheme. In 1966, the Unit expanded to become the Urban Renewal Department (URD).

Key Enablers: The Land Acquisition Act and Government Land Sales

In newly independent Singapore, URD's work was strongly supported by two instruments—the Land Acquisition Act and the Government Land Sales (GLS) or Sale of Sites programme introduced in 1966 and 1967 respectively. The Act addressed the pressing issue of fragmented land parcels in the Central Area, most of which were privately owned by different individuals—a legacy of the colonial era. Through the Act, the Government was legally empowered to acquire private land for national development projects. The Act was amended in 1974, which set compensation for acquired land at its market value on 30 Nov 1973 or date of Gazette Notification, whichever was lower. It was amended again in 2007 and the amendments came into effect on 7 May 2007. This amendment was significant as it provided for the compensation to be determined based on the market value of the acquired land as at the date of publication of the notice of acquisition, where the date of acquisition is on or after 12 February 2007.

A unique approach compared to other cities at that time, the GLS was a vital channel through which state land could be released for private sector development. It was a key instrument for encouraging growth in economically valuable sectors such as retail, entertainment, hotel and financial sectors. With a transparent tender process, property tax concessions, and a 10-year instalment plan, the GLS helped instil confidence while reducing investment risk to developers. In this way, noted former Head of the URD Alan Choe, “urban renewal played a big part in Singapore's planning and urban design scene”.¹¹



(Top left) Press conference by UN urban experts Charles Abrams, Susumu Kobe and Otto Koenigsberger at HDB Conference Room, 1963.



(Bottom left) Lim Kim San, Minister for National Development, leading a discussion about the sale of new flats in Toa Payoh town, at HDB offices along Alexandra Road, 1964.

(Bottom right) United Overseas Bank building, 1976.

Putting in Place a Framework for Integrated, Long-Term Urban Planning (1970s–2000s)

A Landmark Urban Blueprint: The 1971 Concept Plan

By the 1960s, the 1958 Master Plan could no longer keep up with the rapid demographic, economic and political changes that were underway in Singapore.

A more holistic and long-term land use strategy was needed to guide Singapore's urban development in the long run. In 1967, Singapore embarked on a four-year State and City Planning (SCP) Project as part of the Urban Renewal and Development Project under the UNDP. The SCP, which aimed to set out Singapore's future housing, transport, industrial and infrastructure development for the next 20 years, culminated in what would become Singapore's first long-term land use and transport planning blueprint, the 1971 Concept Plan.

The 1958 Master Plan, which served as a statutory medium-term land use plan for Singapore's development over the following 10 to 15 years, was not flexible enough to meet the needs of a rapidly growing nation. Having a Concept Plan would map out Singapore's urban planning vision for the next four to five decades and define the foundational structure for building up modern Singapore.

The 1971 Concept Plan was developed after exploring 13 other scenarios. The plan comprised a ring structure of satellite new towns situated around the Central Water Catchment Area, and an east-west corridor along the island's southern coast to connect major employment hubs such as Changi Airport, the Central Business District (CBD) and the Jurong Industrial Estate.

The entire plan would be served by an islandwide system of expressways and a rail-based Mass Rapid Transit (MRT) system to link all major new towns to the city centre and to Jurong Industrial Estate. The CBD, with its excellent transport links, would be the heart of Singapore's commercial and economic activities. Besides a new international airport, the plan also proposed to develop Sentosa as Singapore's island playground and tourist complex. Despite its long-term outlook of 40-50 years, the Concept Plan would be reviewed regularly to ensure that there was sufficient land to meet Singapore's long-term needs.

Formation of the Urban Redevelopment Authority

The overwhelming scale of work required to carry out the Concept Plan's vision and to revamp the Central Area was beyond the scope of URD. On 1 April 1974, the Urban Redevelopment Authority (URA) was established as a statutory board under MND to give it greater autonomy and flexibility in effectively implementing urban renewal programmes started by URD. In the 1980s, URA expanded its roles from the sale of sites to include the development and management of commercial developments. By then, its experience in planning and urban design for the Central Area was well recognised.



To improve the coordination of city planning, it seemed like a logical next step to merge with the Planning Department, which was responsible for strategic planning and development control for the rest of the country. In 1989, URA, the Planning Department and the Research & Statistics Unit of MND were amalgamated under the name of Urban Redevelopment Authority.

Conserving Singapore's Built Heritage: Establishment of the Preservation of Monuments Board

While the focus in the 1970s was largely geared towards urban renewal and its economic and social imperatives, there was a growing consciousness about the value of conserving Singapore's built heritage. Prime Minister Lee Kuan Yew had in fact sent a letter to Alan Choe in 1967, asking him about conservation plans and acknowledging the importance of preserving buildings of historic interest. In his letter, PM Lee also suggested setting up a committee to study various sites and monuments of significance in detail. With this greater awareness and with PM Lee's blessing, the Ministry of Culture set up a committee to systematically look into creating a National Trust for the preservation of buildings. This resulted in the establishment of the Preservation of Monuments Board in 1971, a statutory board under MND, empowered by the Preservation of Monuments Act to serve as the authoritative body for recommending sites and monuments to MND for protection.

Building the City in Partnership with the Private Sector

With URA as the planner and master developer for the CBD, renewal of the Central Area got underway in earnest, in partnership with the private sector. URA provided the planning vision and guidance, put in place the necessary infrastructure, as well as coordinated the overall developments to ensure their completion.

From its inception until the mid-1980s, URA completed a number of major redevelopment projects and environmental upgrading of historic conservation areas, including Chinatown, Kampong Glam, Little India, Boat Quay and Emerald Hill. Following a four-year comprehensive review by the Central Area Planning Team (CAPT) comprising URA planners and architects, and representatives from other government agencies involved in planning the Central Area, these conservation precincts were announced as part of the 1985 Central Area Structure Plan, which also earmarked areas for intensive development and major open spaces.

While the physical development of the city proceeded at a breakneck pace, market volatility and other crises in the mid-1980s highlighted significant shortcomings in the

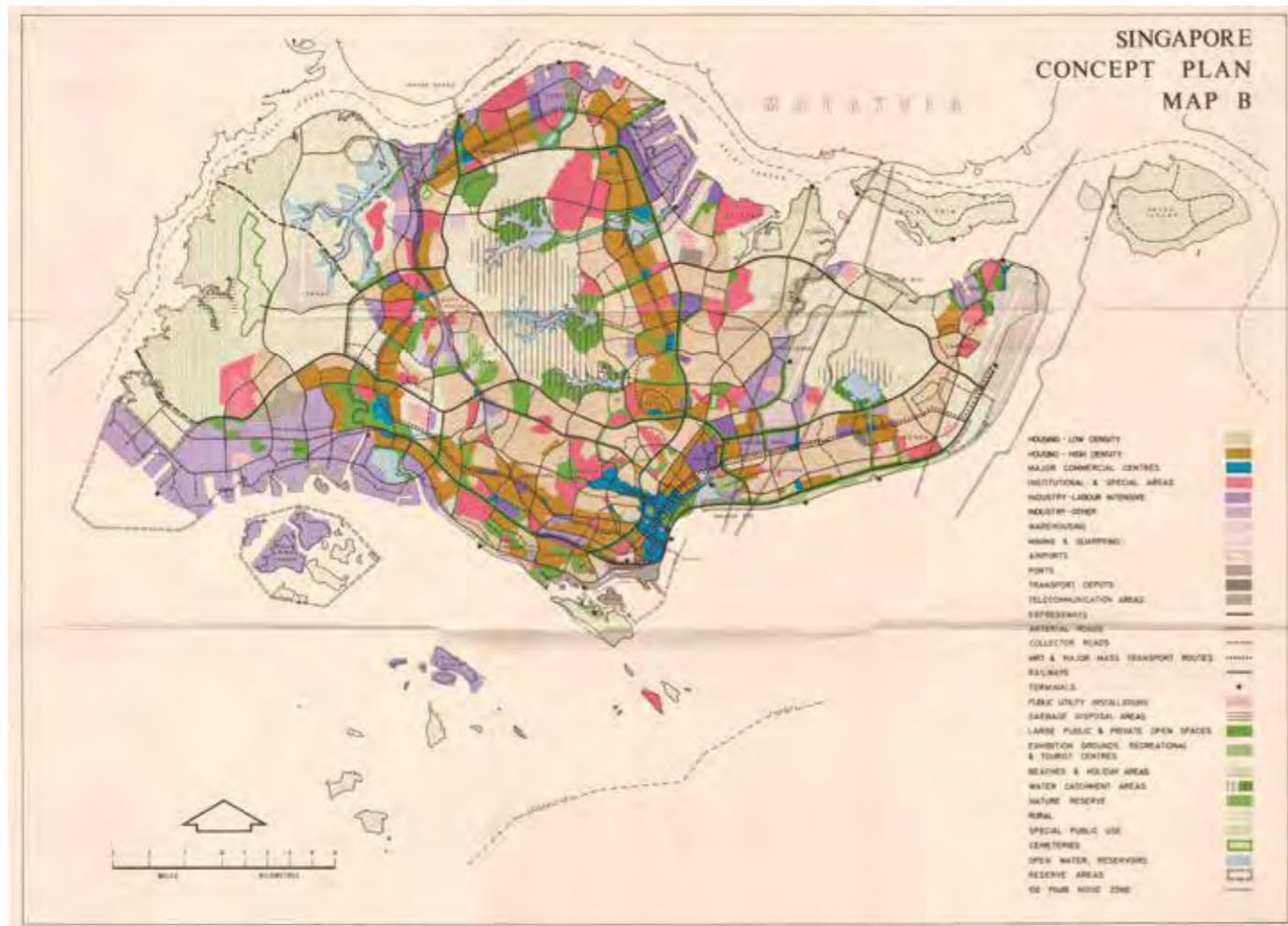
urban planning system. This prompted a major overhaul of the planning regime in 1987.

Development Guide Plans (DGPs) for Greater Clarity and Transparency

By 1987, the government was the largest landowner in Singapore, owning more than three-quarters of the island. That same year, URA returned most of its land to focus on its responsibilities as planner and regulator. Measures were taken to make the urban planning system more streamlined and transparent to private developers. These included the creation of a development charge table to inform developers upfront of the amount they needed to pay for a site and the streamlining of plot ratio calculations by abolishing the use of net floor area in favour of a single parameter, Gross Floor Area (GFA).

(Left) The 1971 Concept Plan.

(Right) Golden Shoe District before and after redevelopment.



“The physical development of Singapore in the coming years will be increasingly undertaken by the private sector. The public sector will guide the course of our physical development rather than become involved in the direct implementation of projects.”¹²

S. Dhanabalan



As part of this sweeping review, Development Guide Plans (DGPs) were proposed as a way to offer landowners and potential developers greater clarity and guidance on what their land parcel could be used for—information that had not been readily available in the past.

URA divided Singapore into five regions (West, North, Northeast, Central, East) and 55 planning areas. Specific DGPs were drawn up for each area, explicating their respective planning objective, land use zoning (i.e. residential, commercial or recreational) and development density (ratio of built-up area to site area). The DGPs were made available for public feedback and provided the basis for the development and subsequent gazetting of the 1998 Master Plan.

The translation of the vision of the 1991 Concept Plan into the DGP process was significant and has today become a key feature of Singapore’s urban planning process.

Consolidating All Urban Planning Functions

The year 1989 saw the consolidation of all functions relating to Singapore’s urban planning, from PMO’s Planning Department to MND’s Research & Statistics Unit, under a single planning authority, URA. With growing calls for Singapore’s rich built heritage, culture and architecture to be preserved, URA was also appointed the national conservation authority that same year.

The 1991 Concept Plan: Living the Next Lap

While the 1971 Concept Plan was largely shaped by pressing housing and economic imperatives, the 1991 Concept Plan envisioned Singapore’s transformation into a ‘Tropical City of Excellence’. Such a city would support a healthy balance of work, commerce and a greater variety of leisure and recreational options. The plan also called for an increased sense of ‘island-ness’ and a city that embraced its coastline and island heritage. These proposals marked a shift towards an emphasis on enhancing the quality of life and projecting the Asian city and tropical island image of Singapore.

“For Singaporeans to be proud to call Singapore home, you must have a sense of ownership, of having made a contribution.... This is why public consultation and feedback are essential to the 2001 Concept Plan.”¹³

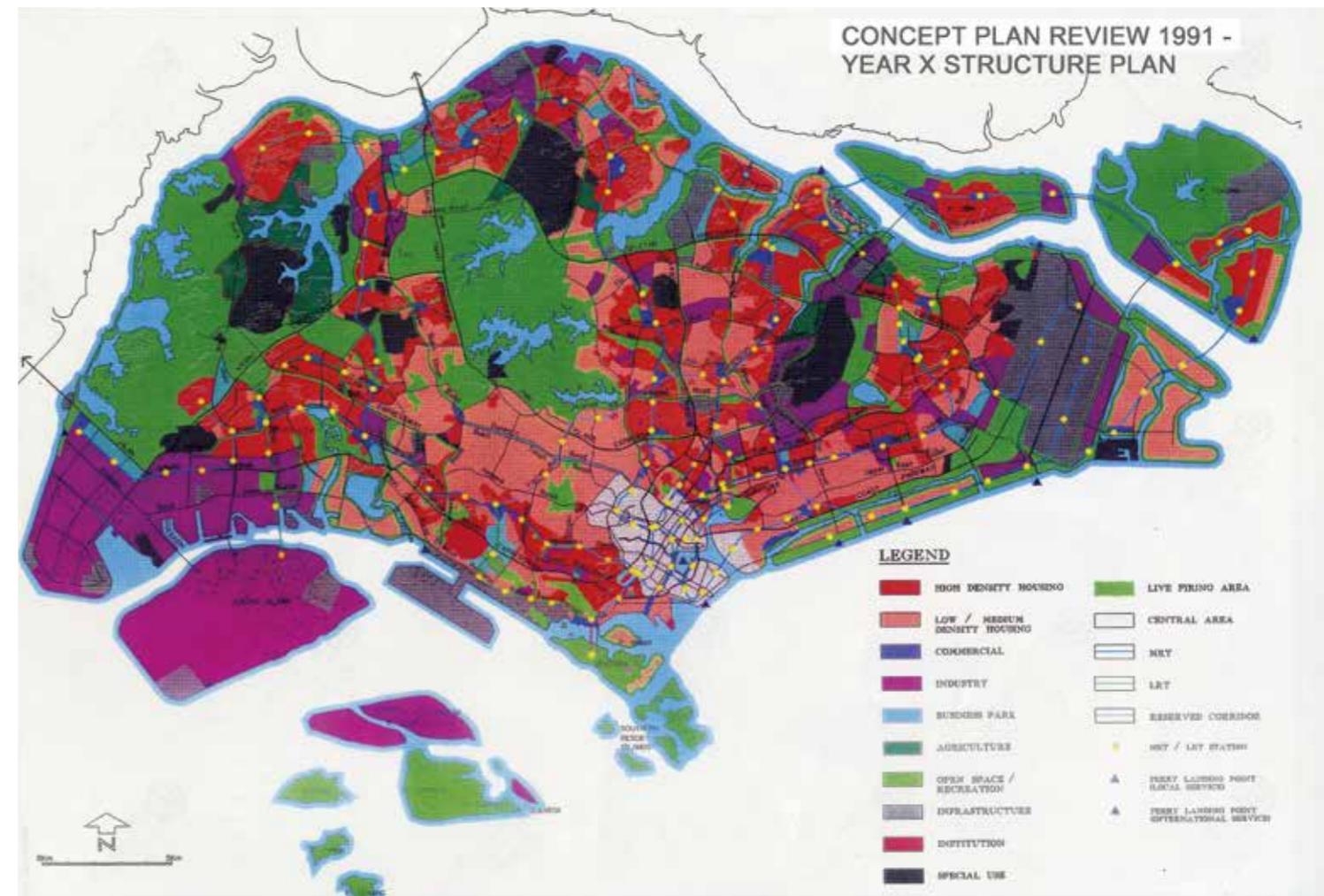
Mah Bow Tan

Under the 1991 Concept Plan, a ‘Constellation’ concept was developed to promote decentralisation of commercial activities away from the city centre to outlying transportation hubs strategically served by MRT stations. The development of regional centres, sub-regional centres and fringe centres at these hubs or nodes, would bring

jobs closer to homes while relieving congestion in the city. A Green and Blue plan was developed, creating a network of open spaces that intertwined with the waterway system to provide improved leisure opportunities throughout the island. After three years of intensive study and consultations, URA unveiled the 1991 Concept Plan through a series of press releases and City Trans Asia, a major exhibition in September 1991, showcasing Singapore’s future transformation.

The 2001 Concept Plan: A Consultative Approach

MND launched the public consultation phase of the Concept Plan 2001 with the formation of two focus groups to study land use dilemmas. Feedback from the public was gathered through the URA website, a public forum, public dialogue and the draft Concept Plan exhibition, as part of the entire public consultation. There were also consultations



(Left, left to right) Minister for National Development S. Dhanabalan, URA CEO and Chief Planner Liu Thai Ker, Minister of State for Communications, Trade and Industry Mah Bow Tan, and URA Deputy CEO Khoo Teng Chye attending City Trans Asia 1991.

(Top) The 1991 Concept Plan.

with various agencies via eight sub-committees during the strategic review stage. All views were incorporated into a draft Concept Plan, which was exhibited to the public from 28 April to 11 May 2001.

Towards a Liveable, Sustainable Urban Environment

Based on a projected population of 5.5 million, the finalised 2001 Concept Plan emphasised the nurturing of a liveable and sustainable environment, with an increase in green spaces featuring prominently.

The plan also addressed Singapore’s changing business needs as a growing knowledge economy, with land set aside for value-added industries such as life sciences, petrochemicals and pharmaceuticals. On the housing front, higher Gross Plot Ratios (GPR) for new housing sites were allowed so that

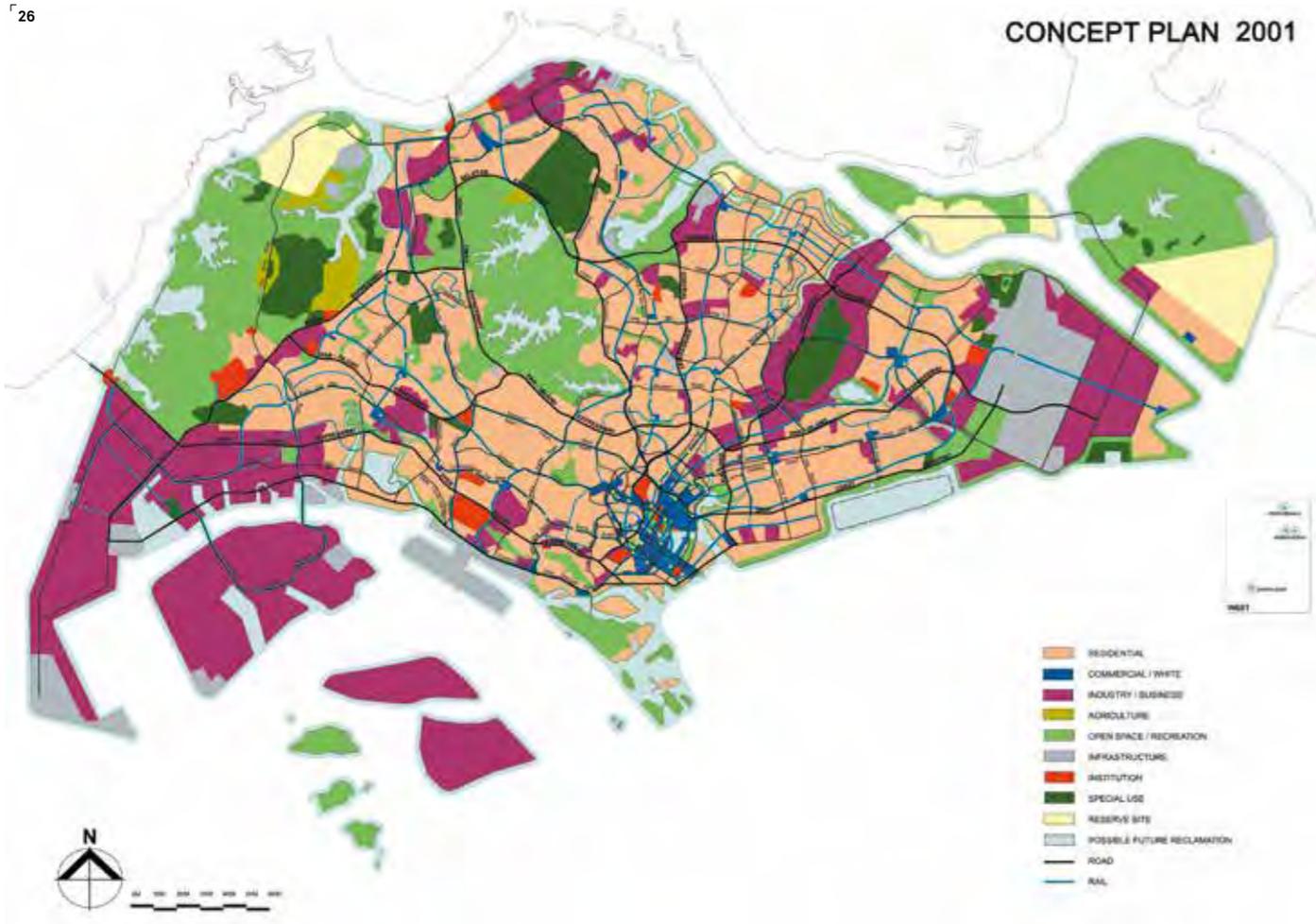
more homes could be built in or near existing towns with established amenities, while retaining green spaces. This would provide opportunities for young couples to live near their parents.

Planning the Urban Future of Singapore, Together (2010s–Present)

Being Future-Ready: The Land Use Plan 2030

The latest review of the Concept Plan was carried out from 2011 to 2013, leading to the release of the Land Use Plan 2030 in 2013. The plan was shaped by the aspiration to maintain inclusiveness and a high quality of life, while continuing to support economic and population growth. The key challenge was developing a plan that could ensure sufficient land was set aside to meet the needs of both current and future generations.

CONCEPT PLAN 2001



The plan spelt out three main strategies—providing good affordable homes offering a full range of amenities, integrating greenery into the urban environment, and sustaining a vibrant economy with good jobs. These proposals were then translated into the 2014 Master Plan.

Gazetted on 6 June 2014, the 2014 Master Plan was centred on the vision of a socially inclusive, economically vibrant and sustainable living environment for all. It safeguarded adequate land for nature reserves and parks, located key amenities such as schools, medical clinics, hawker centres and employment hubs within or near neighbourhoods, and provided more spaces for community interaction and activities. In addition, over 70 buildings were earmarked for conservation, such as Queenstown Library and Alexandra Hospital.

MND’s plans were also aligned with the Sustainable Singapore Blueprint 2015—jointly published by MND and the Ministry of Environment and Water Resources (MEWR)—that outlines Singapore’s vision of greater sustainability and liveability.

“My advice to the planning team was, take your time, because the land will always be there. But more importantly, involve and engage the residents and stakeholders.”¹⁴

Khaw Boon Wan

“The Master Plan process....is really an exercise to reimagine and remake our city—to think about new versions of urban living that will be more fulfilling and sustainable; to think of new ways to stay relevant to the world.”¹⁵

Lawrence Wong

The 2019 Draft Master Plan: The Next Phase of Singapore’s Urban Transformation

Incorporating proposals and public feedback gathered since 2017, the Draft Master Plan 2019 was put up for public exhibition on 27 March 2019. The Draft Master Plan features incentives to encourage a broader mix of land uses within the CBD and other developments islandwide.

Other priorities include building future capacity and planning for resilience, with ecological buffer zones to protect and enhance flora and fauna in the city. The Plan also looks to optimise land use through the redevelopment and repurposing of

Paya Lebar Air Base, as well as the Greater Southern Waterfront following the relocation of the container terminals to Tuas.

The 2019 Draft Master Plan also marks the first time that Singapore’s underground space plans for Marina Bay, Punggol Digital District and Jurong Innovation District have been unveiled. By planning and safeguarding underground space upfront, more surface land can be freed up for people-centric uses.

Much like the Concept and Master Plans of decades past, the 2019 Draft Master Plan has, at its heart, the collective aspiration of Singapore’s urban planners and decision-makers to reimagine and remake a better city, to explore new forms of urban living that can further improve the lives of the people. Singapore’s urban planning has been geared towards not only meeting the needs of today, but also of future generations of Singaporeans.

From a fledgling need to ensure its very survival, to its growing status as a global city, and the ongoing drive to keep the city-state thriving in a competitive, uncertain and volatile world, Singapore’s success in national development is founded on its continued ability to translate bold ideas, visions and long-term plans into material reality.

(Left) The 2001 Concept Plan.

(Bottom, left to right) URA Chief Planner Hwang Yu Ning, URA Chairman Peter Ho, Minister for National Development Lawrence Wong and URA CEO Lim Eng Hwee at the Draft Master Plan 2019 Exhibition.



1959
1969

“The first phase was one of urgency, to house an overcrowded city...”¹

Lee Kuan Yew

Chapter One

Laying the Foundations

Official opening of the first phase of the new Bukit Ho Swee housing estate by Prime Minister Lee Kuan Yew in September 1961. The first completed blocks of flats, containing one-room, semi-communal units, were occupied by victims of the May 1961 Bukit Ho Swee fire.

With Self-Government, National Development Begins

On 30 May 1959, the People's Action Party (PAP) swept to power in a General Election and went on to form Singapore's first fully elected government.² On 5 June 1959, a nine-member Cabinet led by Prime Minister Lee Kuan Yew was sworn into office: the first step in establishing Singapore's new Ministries.

Immediately after the 40-minute ceremony, newly appointed Minister for National Development Ong Eng Guan signed an order "taking over the entire powers" of the British-led City Council. The Council, which was known as the Municipal Commission until Singapore attained city status in 1951, had handled all local matters including utilities, public safety, bridges, roads and street lighting.³ In the ensuing weeks, various departments of the City Council were consolidated to create a centralised, single-tier government.⁴

Singapore's first decade of self-government witnessed rapid change and development, much of it spearheaded by the Ministry of National Development (MND). MND was given charge of rural development, housing, land, town and country planning, as well as all local government affairs. It oversaw about a dozen government departments in charge of functions ranging from the management of state land, urban surveys, public works and road transport, to agriculture, cooperative development, fisheries, rural development, veterinary services, the Botanic Gardens, forestry, postal services and telecommunications.⁵

The newly elected government faced many challenges, including the need to create jobs, ensure food security and secure water supply. Among these challenges, the acute shortage of housing was a particularly pressing concern that had to be resolved before further urban redevelopment could take place. Otherwise, households displaced by redevelopment initiatives would only add to the housing problem.⁶

On 1 February 1960, the Singapore Improvement Trust (SIT) was dissolved and its public housing and planning functions were taken over by two new agencies—the Housing & Development

Board (HDB) and the Planning Department (PD)—established under MND to streamline decision-making and expedite the implementation of housing development and land use policies.

By the time Singapore gained full independence from Malaysia in 1965, HDB had decisively tamed the housing crisis, enabling urban renewal initiatives to be undertaken with the help of sweeping legislative measures.

The comprehensive redevelopment of the city began in earnest once the government gained powers, under the 1966 Land Acquisition Act, to acquire and consolidate large swathes of highly fragmented private and squatter-occupied land, particularly in the prime Central Area. Provisions were made for the occupants of acquired sites to be resettled. Land acquired by the state was used to build new public housing, and provided space for industrial parks, as well as city infrastructure such as roads and sewerage. Larger land parcels would also make possible subsequent major projects such as Changi Airport in the late 1970s and the MRT commuter railway in the 1980s.

Recognising the inadequacies of the colonial administration's planning system, the government sought technical assistance from the United Nations (UN) in 1962 and 1963 to develop urban plans to guide redevelopment. The team of local officers who were assigned to work with the UN team would form the Urban Renewal Unit under HDB on 1 August 1964, and go on to undertake specialised, large-scale urban planning for Singapore. In 1966, the Unit was restructured as the Urban Renewal Department (URD)—the precursor to today's URA.

Besides resolving the most pressing crises of those early years of self-government and independence, the work of MND laid the foundations for Singapore's public housing and urban infrastructure to come. It helped to boost the city's domestic food supply through the PPD, and reorganised the PWD to better coordinate national development projects. It also laid the groundwork for transforming Singapore into a green Garden City—an identity that would come to be associated with Singapore in the decades ahead.



Ong Eng Guan (far right) arriving at City Hall on 5 June 1959 to be sworn in as the country's first Minister for National Development. He is accompanied by Toh Chin Chye (second from right) and Yong Nyuk Lin (second from left), to be sworn in as Deputy Prime Minister and Minister for Education respectively.

Housing a People

Breaking the Back of the Housing Problem

The newly established HDB, chaired by Lim Kim San, was tasked with the daunting challenge of resolving the formidable housing crisis.

To overcome the acute housing shortage, the HDB would have to build more than 10,000 flats each year, a huge step up from the SIT's average of 1,700 units each year. Armed with \$230 million—far more than the SIT had ever received—the HDB embarked on a massive five-year building programme (1960–65).

Focusing initially on building one-room, low-cost flats primarily meant for rental to rehouse slum dwellers and squatters displaced by land acquisition, housing construction proceeded at such a

startling pace that *The Straits Times* in August 1964 declared in a headline that HDB was building "a flat every 45 minutes". The report noted: "Lower income groups in Singapore, which once waited helplessly and in vain for a Singapore Improvement Trust flat, can today move into a Housing Development Board flat within days of applying for one".⁷

By mid-1965, in just five years, HDB had built some 54,430 units—more than double the 23,019 units constructed by the SIT in the previous 32 years (1927–59).⁸ Besides being far better funded than the SIT, HDB's programme was also better coordinated—key departments governing land, building, resettlements and estates all reported directly to HDB's Chief Executive Officer and Chairman. Proactive measures to enhance Singapore's building industry, such as open competition for manufacturing hollow bricks, also allowed HDB to build at a faster pace.⁹

Box Story

Ministers
of this
Decade**Ong Eng Guan**

June 1959–June 1960

As Singapore's first National Development Minister, Ong Eng Guan oversaw the formation of the new Ministry. He was given charge of rural development, housing, land, town and country planning, as well as local government affairs. Ong was also made chairman of the Singapore Improvement Trust (SIT), to oversee the transition of public housing provision to the new Housing & Development Board (HDB).

Tan Kia Gan

August 1960–October 1963

Ong's successor as Minister prioritised the challenge of tackling Singapore's acute housing shortage. Tan Kia Gan oversaw HDB's first five-year building programme which began in 1960. During his tenure, MND also embarked on a massive reclamation of swamps, for farming as well as to build fish and prawn ponds. After losing his Parliamentary seat in the 1963 elections, Tan became Chairman of HDB.

Lim Kim San

October 1963–August 1965

Before becoming Singapore's third Minister for National Development, Lim Kim San served as the first Chairman of HDB from 1960 to 1963, where he spearheaded the construction of low-cost public housing and was credited with "breaking the back" of the housing shortage. As National Development Minister, he launched HDB's Home Ownership for the People Scheme on 12 February 1964 "to encourage a property-owning democracy in Singapore".

“The face of Singapore is changing and changing fast and for the better.”¹⁰

Lim Kim San

In its 1965 Annual Report, HDB confidently declared that Singapore was now in “a position to tackle the twin problems of urban renewal and the provision of housing to keep pace with the rapid rate of population growth”.¹¹

HDB 'New Towns'

The earliest HDB estates were built on smaller state-owned land parcels in Queenstown, Cambridge Road, Old Airport Road and the Kallang-Whampoa area. Subsequently, larger plots created through land acquisition paved the way for the creation of planned large-scale satellite townships, called “new towns”, which were designed to be self-contained and provide a total living environment with employment opportunities, education, healthcare and recreational facilities as well as retail and food outlets.

Depending on locality and land availability, each new town comprised several

neighbourhoods of around 4,000 to 6,000 dwelling units each. Neighbourhood centres with shops, markets, and food centres were generally located within walking distance from homes. Subsequently, each neighbourhood was further divided into smaller housing precincts of around 700 to 1,000 dwelling units. Precincts were designed with footpaths and trees so that residents were bound to meet along the thoroughfares. This enhanced safety and promoted chance meetings among neighbours, contributing to MND's broader objective of building and strengthening community ties in Singapore's housing estates.¹²

Although Queenstown was the first town to be built in Singapore, Toa Payoh was the first satellite town to be fully planned and developed by HDB from the ground up. Built during HDB's second five-year programme (1966–1970), Toa Payoh was designed to be a self-contained town, with five neighbourhoods grouped around a town centre. Each neighbourhood contained its own set of facilities such as a neighbourhood centre, schools and a community centre. The Town Centre included facilities such as shops, a library, police station and clinics.

(Top left) Minister for National Development Ong Eng Guan speaking during a campaign in 1959 to spring clean the city for National Loyalty Week.

(Middle left) Minister for National Development Tan Kia Gan (centre) presiding at the sale of piglets at the Central Veterinary Station in Sembawang Road, 1961.

(Bottom left) Minister for National Development Lim Kim San planting a sapling during a tree planting campaign along Aljunied Road and Upper Aljunied Road, 1964.

(Right) Aerial view of Toa Payoh New Town, 1967. Toa Payoh was the first satellite town built after Independence. Its town centre was a focal point where residents could meet and shop. Today, Toa Payoh is a mature estate and also the location of HDB's headquarters.





“My primary preoccupation was to give every citizen a stake in the country and its future. I wanted a home-owning society....[I] was convinced that if every family owned its home, the country would be more stable.”¹³

Lee Kuan Yew

Just as land acquisitions enabled HDB to build more satellite towns, its public housing drive also contributed to the early successes of land acquisition and resettlement initiatives. The success of the public housing programme meant that residents who faced land acquisition and resettlement could quickly be offered good accommodation in a better living environment. This helped overcome their initial resistance to move.

HDB’s integrated housing, resettlement and town planning functions ensured a relatively smooth resettlement process. It also enabled better forward planning and coordination, since the same agency issuing resettlement notices also provided alternative housing.

The government’s resettlement and public housing policies dovetailed with the emphasis on home ownership to build a stakeholder society after Singapore’s independence in 1965.

On 25 May 1961, a massive fire in Bukit Ho Swee left thousands homeless. To rehouse residents, Operation Shift placed over 1,000 affected families in HDB flats in Queenstown, Tiong Bahru, Alexandra and the Kallang area. The Bukit Ho Swee area was redeveloped and flats were built in a record nine months.

Building a Stakeholder Society Through Home Ownership

By the early 1960s, a large number of Singaporeans had been resettled in HDB rental flats that were a marked improvement from the overcrowded shophouses with squalid conditions of the past.¹⁴

On 12 February 1964, HDB’s Home Ownership for the People Scheme was launched by its former Chairman Lim Kim San, who had been appointed the Minister for National Development in 1963. Aiming “to encourage a property-owning democracy in Singapore,”¹⁵ the scheme enabled low-income Singaporeans, who would otherwise not be able to buy homes from the private property market, to buy flats with basic amenities at affordable prices from the government on a 99-year lease. Most of the home buyers were unable to pay for a flat upfront in full, and were hence offered low-interest government loans, with low monthly instalments: the buyer of a three-room flat could expect to repay \$44 each month, compared with renting a similar unit for \$60 a month.¹⁶

In contrast to the conventional Western model of rental public housing, which often resulted in misused and poorly maintained residential facilities, public housing owned by its residents encouraged a sense of pride and place. After independence in 1965, Prime Minister Lee Kuan Yew also came to view home ownership as vital to anchoring a society of mostly first-generation immigrants, who had yet to develop strong bonds to the newly independent nation.

Box Story

A Home for the Nation's Builders: The MND Building

When MND was formed in 1959, its various departments were dispersed around the city. MND was headquartered at Upper Pickering Street, PWD at High Street, the Planning Department at City Hall and HDB at Princess House in Alexandra.

It was felt that housing all MND departments under one roof, along with HDB's headquarters, would improve administration and coordination, and be more convenient for the public.

A new building to house both MND and HDB was proposed to be built at 5 Maxwell Road. A central location would support the work of MND, which at the time was focused on urban redevelopment in the city centre.

Construction on the \$17-million, 22-storey MND Building began in 1965. Completed at the end of 1969, it was lauded as the most modern government building and also the biggest office building of its day in Singapore. MND and HDB began moving into their new premises in 1970. This was such a massive undertaking that it had to be done in phases. By July 1970, seven of HDB's sections occupied 8 out of 22 storeys of the new building.



(Left) Aerial and street views of the Ministry of National Development Building at 5 Maxwell Road in 1969 and 1970.

(Top) The second ballot for the sale of flats in MacPherson Estate under HDB's Home Ownership for the People Scheme, held at Jalan Balam, 1965.

During this period, many households were still of modest means: in 1965, Singapore's GDP per capita was just \$1,580. Home sales under the Home Ownership scheme took off after 1968, when Singaporeans were allowed to draw on their Central Provident Fund (CPF) savings to make down payments and to pay monthly instalments for their HDB flats—allowing many more Singaporeans to own homes with minimal impact on their take-home pay.¹⁷

By 1969, out of some two million Singaporeans, about one in three were living in HDB flats. This was up from fewer than one in 10 living in public housing in 1959, when the city's population was about 1.6 million.¹⁸

Building for Economic Growth

Making Land Available for Economic Development

The work of MND and its agencies in managing the use of scarce land has also been key to Singapore's economic development.

In the late 1960s, the impending withdrawal of the British military—previously a major source of economic activity and jobs for Singapore—made job creation and economic development a top priority for government.

Through the sale of state land, the URD sought to create viable opportunities for the private development of residential,



commercial, recreational and office buildings in prime locations. The goal was to advance urban renewal, promote economic development, and boost the growth of the private sector.¹⁹ URD, working closely with the Economic Development Board (EDB) and the Singapore Tourism Board (STB), identified strategic sites to be developed in order to attract foreign capital and promote tourism. From 1967 to 1969, URD conducted its first three Sale of Sites programmes, making land available for the development of office buildings, hotels and shopping complexes to support the tourism and service sectors.²⁰

However, commercial and office spaces at the time consisted mostly of two-storey shophouses. Most private developers were reluctant to take on the costly, large-scale projects needed to develop multi-storey office buildings and shopping complexes.

To encourage private sector involvement, the government offered a slew of financial incentives. For instance, the development charges for projects were often waived, and foreign investors participating in the land sales were given eligibility for permanent residency.²¹

At the same time, the government retained control over build quality. It also put in place measures to prevent land speculation, and set time-based criteria for the completion of development milestones to ensure the timely supply of properties.

A second round of land sales in 1968 focused on Shenton Way, which had been earmarked as an extension of the CBD. More than 10 sites designated for offices were offered along Shenton Way and at the Golden Shoe financial district. From these sites rose the first iconic buildings to transform and define

(Top) Sites in the Central Area sold under the Sale of Sites Programme. The programme made land available for the development of office buildings, hotels and shopping complexes.

(Right) A farmer and member of staff from the Primary Production Department assessing crops in the 1960s.

“Without all those incentives, it would have been a struggle for Singapore to go from Third World to First in the time it did.”²²

Alan Choe

modern Singapore’s skyline: these included Shenton House, the UIC Building and the 52-storey OCBC Centre designed by world-renowned architect I.M. Pei.

A third round of sales in 1969 offered yet more office space, but also injected vibrancy and nightlife to the Central Area with mixed-use buildings—such as Marina House, International Plaza and Textile Centre—that combined housing, shopping and entertainment facilities.

To promote tourism, URD identified and cleared old factory warehouses in the Havelock Road area, relatively close to the Orchard Road tourist belt, for hotels to be built. Properties that came up during this period included the King’s Hotel, Miramar Hotel and the Apollo Hotel.

The Kallang Park area was earmarked for recreational projects. Developments in the area, such as the Wonderland Amusement Park, Leisure Dome and Kallang Theatre, would be completed in the 1970s.

Feeding Singapore

Established on 25 June 1959 under MND, the PPD brought together the former colonial administration’s agriculture, cooperative development, fisheries, rural development and veterinary divisions.

Even in the 1960s, Singapore did not produce enough food for its resident population, and food had to be imported. PPD was tasked with assessing and addressing the needs of Singapore’s farmers and rural communities, and with boosting food production by introducing new farming and fishing methods. This was essential not only to achieve a degree of self-sufficiency, but also to improve socio-economic conditions in the rural farming areas. Agriculture was then an important sector, providing Singaporeans with food and livelihoods. In 1970, 9% of the total population, or about 175,400 people, were actively engaged in agricultural activities or were indirectly dependent on farming and fishing for a living.²³



Box Story

MND Staff Volunteer to Build Kallang Park



Children playing during the official opening of Kallang Park on 18 October 1959.

On the first Sunday of August 1959, barely two months after Singapore attained internal self-government, staff of the newly formed MND were among more than 13,000 people who responded to the government's first ever call for volunteers to help clear the ground to convert the old Kallang Airport into a public park and children's playground.

“Project Lung” was the brainchild of then-Minister for National Development Ong Eng Guan—a proponent of converting vacant spaces into parks and playgrounds—who said it “will provide lungs for people who live in cubicles”.

More than 5,000 volunteers participated in the event, including members of the Cabinet, assemblymen and staff of various ministries. Armed with pickaxes and shovels, the volunteers removed rubble and litter, filled potholes and dug holes for planting trees. Weeds were cleared so that grass could be planted, and the ground was prepared for a lily pond and a paddling pool for children. The site was then handed over to the City Council and PWD to carry out specialised work.

The 250 acre (1 km²) Kallang Park opened in October 1959 and was billed by the press as the “newest and proudest landmark in the State of Singapore”.

A decade later in 1969, the \$3 million Wonderland Amusement Park was added to Kallang Park to coincide with the celebrations to mark 150 years of the founding of Singapore by the British, followed by a cinema in 1970 (now the Kallang Theatre) and Singapore's first National Stadium in 1973.

With the assistance of the UNDP, a training institute was set up in 1968 to retrain local and regional fishermen to switch from inshore to offshore fishing and groom the next generation of fishermen. A Fisheries Office coordinated use of the fishing grounds and oversaw the industry's growth.

Around the same time, a fishing port was proposed in Jurong to diversify sources of food supply and create more jobs. The Jurong Fishing Port opened in 1969, turning the local trade into an industry with global reach. Besides a well-equipped jetty, it also featured a central fish market, cold storage, ice plants and other supporting onshore facilities. It attracted a multitude of fishing vessels, including

Russian trawlers headed to Australian waters. The increased supply brought down the price of fish in Singapore.²⁴

By 1970, the PPD had set up 10 Agricultural and Veterinary Extension Centres across the island so that farmers no longer needed to commute to the city for assistance. The handful of qualified veterinarians and agriculturists available in Singapore at the time visited these Centres to treat animals and provide farming advice.²⁵ The PPD also introduced programmes to help farmers optimise agricultural or breeding yields, and to perform vaccinations. Technical information was also dispensed through bulletins, pamphlets and rural broadcasts.²⁶

Primary Production Department veterinary staff examining a cow, 1964.





(Left) Land reclamation operations, 1966. This project was started by HDB to link the East Coast area with the city centre.

(Bottom) Sewerage works by PWD being conducted at a home off Changi Road, 1963.



Creating a Liveable and Green City

Shaping Singapore: Infrastructure Building and Long-Term Planning

In December 1963, Minister for National Development Lim Kim San announced a revamp of PWD, in order to better coordinate national development projects such as road and sewerage works and to make its functions more efficient and effective.²⁷

In the 1960s, ensuring a stable and adequate supply of water was a major

challenge. Singapore's waterways were polluted, and protected water catchments lacked sufficient reserves to supply the city over prolonged dry seasons, which meant water had to be imported from neighbouring Malaysia. Periods of drought occurred, and water rationing was imposed in 1961 and again from May 1963 to January 1964. The Public Utilities Board (PUB), which had been set up under MND in May 1963, initiated works to improve water supply. More importantly, it sought to increase Singapore's own water resources by expanding the capacity of the Seletar Reservoir and initiating plans to build the country's fourth reservoir at Bedok.²⁸

In the late 1960s, PWD developed a Sewerage Master Plan (later renamed the Used Waters Master Plan) to build a system that could cope with a growing population, the rapid development of public housing, industrial development in Jurong and the intensive redevelopment of the Central Area. In 1971, the main public sewerage network only served 57% of the population.²⁹ PWD made plans for a rapid expansion of the network, the relaying and re-routing of existing services, and the expansion of sewage treatment works.

Later, a Drainage Master Plan would be developed in the 1970s by URA and HDB under MND, in collaboration with the Ministry of Environment's Drainage Department. To ensure that new land developments made adequate provisions for drainage, MND's Planning Department would consult the Drainage Department on technical requirements as part of its planning and building control procedures. Such collaborative efforts to improving the management of sewers and drains would have an important impact on Singapore's water supply in later decades, when the country began to take a serious look at alternative sources for potable water.



(Top) A tree planting expedition led by Minister for Social Affairs Othman Bin Wok in the Alexandra area in 1964.

(Right) Staff at work in the Singapore Botanic Gardens, 1962.



Greening Singapore

While Singapore had been largely forested when the British established a trading settlement on the island in 1819, much of it had been deforested by the end of the 19th century. By 1965, less than 10% of Singapore's original primary rainforest remained.³⁰

Although newly independent Singapore's foremost priorities were to build housing and infrastructure, as well as to support economic development and create jobs, nurturing a healthy, green and natural environment was regarded as an equally important aspect of a country with a pleasant living and working environment. A key advocate of this was pioneering Prime Minister Lee Kuan Yew. In 1963, he launched a nationwide Tree Planting Campaign, marking the start of a movement to green Singapore.

Not satisfied with the mere inclusion of trees, plants and green spaces within built-up areas such as housing estates and the commercial district, PM Lee initiated the Garden City programme in 1967 “to green up the whole island and try to make it into a garden”.³¹ This aspiration was virtually unique among newly independent developing countries at the time.

A specialist Parks and Trees Unit was set up by PWD that year. The greening drive would advance in tandem with a public cleanliness campaign: the Prime Minister set a three-year target to make Singapore “a garden city beautiful with flowers and trees, and as tidy and litterless as can be”.³²

In 1970, the Garden City Action Committee (GCAC) was formed to oversee policies for greening the whole island and to coordinate the activities of the various government agencies in this respect. To encourage public participation in greening efforts, an annual Tree Planting Day was introduced in 1971—since then, it has become a month-long event held in November.

Making Singapore a “Garden City” was seen as a way to improve quality of life by improving peoples’ recreational and leisure opportunities, and to give Singaporeans a shared sense of pride in their city. It was also a way for the city-state to distinguish itself globally in order to attract international investment and tourists. Creepers were planted on retaining walls, overhead bridges, flyovers and fences. Trees and flowers were planted in highly visible areas such as Changi Airport and its connecting highway, to give visitors a memorable first image of Singapore. The entire stretch of coastline from the airport to the city was turned into a beachfront park for public recreation: the much beloved East Coast Park.

The city would come to be known for its public parks, gardens and open spaces, linked by tree-lined roads and pedestrian paths.³³

“Even in the 1960s, when the Government had to grapple with grave problems of unemployment, lack of housing, health and education, I pushed for the planting of trees and shrubs. I have always believed that a blighted urban jungle of concrete destroys the human spirit. We need the greenery of nature to lift up our spirits.”³⁴

Lee Kuan Yew

From Squalor to Success: A Blueprint for Modernising Singapore

In the early decades of Singapore's self-governance and subsequent independence, national development accounted for the bulk of the government's expenditure. Of the \$294 million earmarked for development spending in 1965, more than \$125 million was allocated to MND. Of this, \$70 million, or 56%, was for housing and the rest for various projects including urban redevelopment and land reclamation along the East Coast and in Kallang.³⁵ In the 1970–71 budget, the \$95.65 million allocated to the Ministry (then called the Ministry of Law and National Development) was the largest share of the government's development estimate of \$438.5 million.³⁶

By the late 1960s, major land reclamation projects—such as on the East Coast and in Kallang—and decisive land acquisition meant that Singapore could carry out comprehensive urban planning and development for the first time. With the help of experts from the UN, MND began working on a new planning framework to guide development throughout Singapore.³⁷ After a four-year study, Singapore's first Concept Plan was completed in 1971.

In 1968, the British government decided to bring forward the withdrawal of its armed forces from Singapore by five years, to 1971 from 1976. The pull-out would transfer some 15,000 acres (61 km²) of land and numerous buildings to the Singapore government.³⁸ This added impetus to the planning efforts to determine what the city-state would look like in the following two decades.

Projecting a future population of four million, the 1971 Concept Plan envisioned development along a band around the central water catchment area, complemented by an east-west corridor along the southern waterfront, and intensified development in the Central Area, which provided most of the city-state's job opportunities. It also planned for a network of major roads and expressways as well as a future rail-based rapid transit system, to be developed to support the overall city.³⁹

With the city-state's most pressing urban crises resolved by the beginning of the 1970s, the 1971 Concept Plan was set to shape the urban transformation of modern Singapore in the decades to follow.

1970 1979

“Ten years in the history of a country is a very short period. Singaporeans, however, can be proud that within this very short duration, they have laid a firm and sound foundation for the future.”¹

Lim Kim San

Chapter Two

Scaffolding for a Modern City

View of the Central Business District (background) and shophouses (centre), with Coleman Bridge and bumboats on the Singapore River in the foreground, 1976.

New Urban Beginnings

By the end of the 1960s, the housing crisis had been largely resolved through HDB's public housing programme, and the process of transforming Singapore into a modern city could begin in earnest. Land had been acquired for development by the state, and after the withdrawal of British forces, the land they occupied was transferred to the Singapore government after July 1973.² With the pace of industrialisation and the development of transportation infrastructure accelerating, land use underwent a major change through the 1970s.

The 1970s was therefore an era of intensive development and urban renewal, with the 1971 Concept Plan serving as a national blueprint for development. These early national development projects were almost entirely carried out by various government agencies, including HDB and other arms of MND.

The road network was expanded, expressways built, and public sector agencies planned key infrastructure including Changi Airport and seaports. In this era, the focus of HDB's public housing programme underwent a major shift towards providing better and bigger homes in new townships to meet the needs and aspirations of a growing middle class.³

By the 1970s, Singapore's city centre had become a predominantly commercial hub.⁴ Redevelopment and resettlement efforts had dramatically reduced the number of people residing in the Central Area from about 360,000, or 30% of the total population in the 1960s, to 155,800 by 1980, or 6.5%.⁵ To address this shift and make optimal use of scarce but prime land in the city core, UN advisors had advocated creating an independent body specifically tasked with urban redevelopment.⁶

While HDB's Urban Renewal Department (URD) had played this planning role in the late 1960s, its mandate was to redevelop the city centre with private sector participation. This was in contrast with its parent agency HDB's focus, which was to build public housing, led by the public sector. To overcome this limitation, URD's head, architect-planner Alan Choe, successfully lobbied Minister for National Development Edmund William Barker, as well as HDB leadership, to create a separate statutory board focused on urban redevelopment.⁷

In 1974, the Urban Redevelopment Authority (URA) was formed as a statutory board under MND, with Choe as its first General Manager. URA became Singapore's main planning and development agency and was tasked with the renewal of the city centre.⁸ Its mission: to make Singapore a great city in which to live, work and play.

URA was empowered to deal with matters pertaining to the clearance and development of land, to sell and manage properties, and to regulate car parks, among other functions.⁹ Its development proposals continued to be approved by its parent, HDB's Planning Department, while it also had to abide by government rules.

Over the next two decades, URA's planning and development initiatives would be instrumental in transforming Singapore's Central Area, the boundaries of which expanded rapidly.



Aerial view of reclaimed land off Marine Parade, and new HDB flats under construction, 1973.

“What we are witnessing today is again an illustration of the determination with which the Government is tackling the problem of providing homes for the people of our island Republic.”¹⁰

Edmund William Barker

Housing a People

A New Phase in Housing: Meeting Aspirations

The focus of HDB's public housing programmes in the 1960s had been to provide housing quickly to relieve overcrowding and to resettle city residents. Having resolved these pressing concerns, it was able, by the late 1970s, to shift towards providing bigger and better homes, and towards developing new townships with a range of amenities and facilities to meet the rising expectations of citizens.¹¹ The economy had taken off in the past decade, and Singaporeans were becoming more affluent.

Enhanced Facilities

To enhance liveability, greater emphasis was placed on providing open spaces, car parks and playgrounds, as well as landscaping within HDB estates.

Box Story

Ministers of this Decade

Edmund William Barker August 1965–June 1975

Edmund William Barker was a member of the first post-independence Cabinet, and from 1965 he held the dual portfolios of Minister of Law and National Development. His national development tenure was the second longest in MND's history.

Barker's key achievement was the introduction of the 1967 Land Acquisition Act, which allowed the government to acquire private land for development. He oversaw the development of Toa Payoh, the first HDB satellite town, and the East Coast Reclamation Scheme. Under him, URA was formed and MND took on responsibility for tree-planting and park management. Barker also spearheaded the conservation of historical structures with the 1971 Preservation of Monuments Act and the formation of the Preservation of Monuments Board.

Lim Kim San June 1975–January 1979

In the course of his long political career, Lim Kim San held a number of other ministerial portfolios, including Finance, Education, Defence, Communications and the Environment, as well as the National Development post for a second time in the late 1970s.



(Far left) Minister for Law and National Development E.W. Barker holding a press conference on urban renewal projects, at HDB offices at Alexandra Road, 1967.



(Left) Minister for National Development Lim Kim San speaking to an elderly lady during a visit to Cairnhill Constituency, 1978.



(Top) Aerial view of Bedok New Town, with Chai Chee Estate in the background, 1974. By March 1976, HDB had built 4,600 units of flats in Bedok.

(Bottom) Toa Payoh residents playing basketball, 1972.

In the 1970s, new towns such as Ang Mo Kio, Bedok and Clementi (informally referred to as ABC Towns) sprang up. Further plans were made for HDB towns in areas such as Woodlands, Yishun, Hougang, Tampines, and Jurong East and West.

Bigger and Better Homes

A resale market for HDB flats was created in 1971, allowing qualified owners to sell to eligible buyers who were on HDB's Registrar of intending purchasers. By the 1970s, some households had incomes that were too high to qualify for a subsidised HDB flat, yet they could not afford to buy a private property during the 1970s property boom. A series of measures were taken to meet the needs and aspirations of this so-called 'sandwiched class'. The Housing and Urban Development Company (HUDC) was established as a government-sponsored company in 1974 to cater to middle-income families, offering condominium-style apartment complexes with communal facilities like playgrounds and ball courts, in choice locations such as the East Coast, Amber Road, Lakeside View, Farrer Road and Braddell Rise.¹² New and larger five-room maisonettes and executive HDB flats were introduced in 1979 and 1980 respectively.

Growing Demand for Public Housing

Demand for HDB flats continued to grow, mainly from post-war baby boomers who were starting new families. In 1970 alone, there were 20,598 applications, almost equalling the total since 1964. At the end of May 1971, some 45,000 applicants were on the waitlist to buy or rent an HDB flat, but the Board only had plans to build 17,000 flats that year.¹³ By 1975, with a waiting list of 100,000 applicants, HDB's building plans underwent further intensification, including offering larger sized flats.¹⁴ By 1977, HDB flats housed half of Singapore's population of 2.4 million. The housing shortage had largely been overcome, and the backlog of demand for flats had finally been met.¹⁵



Building for Economic Growth

The Economic Imperative: Infrastructure for Growth

By the early 1970s, a flood of foreign money and professionals into Singapore had given the economy a significant boost. Much of this investment flowed into real estate, contributing to a property boom that peaked around June 1973.

The surge in construction led to a suspension of major land sales. From 1970–73, only selected parcels were sold to meet specific demands such as tourism development, business resettlement or to improve the connectivity of the financial district.¹⁶ Government land sales resumed in 1974, after the formation of URA. Improved economic conditions and a positive market response allowed URA to withdraw incentives offered in earlier sales.¹⁷ In contrast to earlier land sales, the fourth land sale also offered small-sized parcels that required less capital investment, opening the door to smaller developers.

Between 1977 and 1980, URA sold about 24% more state land for industrial and commercial uses than in the preceding 10 years.¹⁸ Such land sales played a vital role in the industrial development and rapid modernisation of Singapore. They supported the establishment of major industrial estates to attract foreign direct investments and helped attract multinational corporations to locate their regional headquarters in the city-state.

From 1967 to 1983, a total of 166 land parcels were sold under Government Land Sale programmes, resulting in the development of 143 projects, worth about \$9 billion in investment value.¹⁹

Supporting Industrialisation

With the pace of industrialisation and infrastructure development accelerating throughout the 1970s, the use of scarce land resources underwent a major transformation. The biggest increase was in industrial use: a Land and Building Use Survey carried out by MND's Planning Department showed an almost five-fold increase from 1967 to 1982.²⁰

During the 1970s, Jurong Industrial Estate—Singapore's first industrial estate, initiated by a consortium of government agencies in 1961—was significantly enlarged through land reclamation.²¹ Other industrial clusters, particularly of lighter industries, were integrated with high-density HDB housing estates such as Toa Payoh, Ang Mo Kio and Ayer Rajah, which served as sources of labour for the factories.

Part of Singapore's rapid industrialisation programme involved the development of modern port facilities—these included Jurong Port (1965), the Tanjong Pagar Container Terminal (1972), and Pasir Panjang Wharves (1974). Work began on Changi Airport in 1975; it became operational in 1981. The development of a major international airport and modern shipping facilities enabled Singapore to stake its claim as a hub for transportation, container shipping and tourism. To support these new sectors, private developers were incentivised through the land sales to develop warehouses and flatted factories in the western and eastern parts of Singapore.

The Oversea-Chinese Banking Corporation Centre (under construction) and United Overseas Bank Building (now UOB Plaza Two) tower above shophouses near Shenton Way and Chinatown, 1974.

Box Story

Resettling Communities

Resettlement was a complex process. Hostility and suspicion among those being resettled had to be overcome. People accustomed to single-story homes in slums and kampungs had to learn to adapt to high-rise HDB flats. Efforts were made to keep whole communities together during resettlement.

One of the earliest resettlement programmes was for the development of Toa Payoh New Town in the early 1960s in what was then a farming area occupied by some 3,000 squatter families. In 1961, when the first bulldozers arrived, hundreds of villagers blocked their path as the relocation would hurt their livelihood and also uproot their community. Many were keen to continue living in Toa Payoh and rejected HDB's offer of either cash compensation or resettlement.

For those wishing to remain, HDB built temporary houses nearby to accommodate them until their new HDB flats in Toa Payoh were ready. Villagers willing to relocate were provided 192 single-storey three-room terrace houses at Kim Keat Road and prefabricated houses at Thomson Road. The houses at these locations near Toa Payoh were given free, at a monthly land rent of only S\$5.

The early one-room and emergency flats built in Toa Payoh quickly became crime-ridden resettlement ghettos known as “the Chicago of Singapore”. The situation was resolved with their redevelopment from the late 1970s and the introduction of HDB precincts where newly resettled residents did not comprise more than a third of the population and could learn good habits and lifestyles from their new neighbours.

On the other hand, the Outram Park Complex, built in the late 1960s, was considered a successfully integrated resettlement centre where existing community and business ties were kept intact. Comprising a mix of commercial and residential uses, it attracted much interest from the businesses and residents displaced from Chinatown, many of whom relocated to the new complex.



(Left) Elderly residents watching television in their new HDB flat, 1974.

(Top right) The container ship “Tokyo Bay” making its first call at the new Port of Singapore container port in Tanjong Pagar, 31 August 1972.

(Bottom right) Construction of the terminal buildings at Changi Airport in the late 1970s.

Transportation Infrastructure: Roads, Expressways and Mass Transit

Before 1971, the city's road network—laid down in the early colonial era—featured eight major radial routes converging in the Central Area, within which lay a rectangular grid of one-way streets.²² A Transportation Plan, produced in tandem with the 1971 Concept Plan, provided for a network of nine expressways supported by roads connecting to developmental areas to improve the capacity and connectivity to residential towns, industrial estates and other key areas.

PWD, working closely with other MND agencies such as HDB and URA, set aside land and carried out preparations for the new road system. It made a series of road improvements, ranging from the widening of junctions to installing traffic light controls, and segregating pedestrians and vehicular traffic with the help of footpaths, overhead bridges and underpasses.²³ Between 1967 and 1982, land used for transport almost tripled, as PWD expanded the road network.





A planned 135 km of expressways was prioritised in the road-building process—these would form the backbone of the entire road network.²⁴ Construction of the highways was planned in tandem with major developments unfolding across Singapore, in order to create systematic linkages. The Pan-Island Expressway (PIE) and East Coast Parkway (ECP)—the first two to be built and completed in 1981—were designed to link the new airport in Changi to the city centre. The PIE was conceived as a “super road” linking up satellite townships from Jurong to Changi; it was extended to the Jurong Industrial Estate, which was being developed into a major employment centre.

The Transportation Plan also advocated building up Singapore’s public transport system to cater to the needs of a growing population, which was projected to hit 3.4 million by 1992, and 4 million subsequently.²⁵ But in land-scarce Singapore, roads could not be built indefinitely to support growth.²⁶ By the early 1970s, traffic congestion had already become a concern—measures to limit the number of cars in the city centre, such as the Area Licensing Scheme introduced in 1975, would not be able to contain the problem in the long term.

From 1972 to 1981, feasibility studies were carried out to assess the need for building a rail-based mass transit system to support an increasingly dense and congested urban environment. Throughout the decade, a vigorous debate involving the whole of government ensued over whether a mass rail or cheaper all-bus system was better for Singapore.²⁷

In 1982, the decision was finally settled in favour of building the Mass Rapid Transit (MRT) system for some \$5 billion—a hefty sum at the time. The MRT system would become more than just a transportation solution: it would also shape urban development patterns along its routes, distributing residential, commercial and other activities away from the dense Central Area in an orderly, planned manner.²⁸

Professional Engineers Board

With the rapid expansion of construction activity since independence, the government recognised the need to ensure the safety of peoples’ lives and property by regulating the engineering profession. In 1969, it decided to enact a law requiring the compulsory registration and control of practising engineers.²⁹ Shortly after the Professional Engineers Act was passed in 1970, the Professional Engineers Board (PEB) was formed in 1971. Headed by the director of PWD, Hiew Siew Nam, the PEB comprised members drawn from among engineering and architecture firms. It was tasked with regulating and advancing the practice of professional engineering.³⁰ Besides certifying professional engineers, it also administers rules governing their professional conduct and ethics.³¹

Aerial view of
Jurong Industrial
Estate, 1970.

Box Story

From Street Peddlers to Hawker Centres



(Top) Public health inspectors checking on the hygiene practices of street hawkers and market vendors near Arab Street, 1963.



(Bottom) Chomp Chomp Hawker Centre in 1972 ahead of its opening in Serangoon Gardens. The hawker centre, which cost \$95,000 to build, re-located street hawkers who had previously operated at the bus bay in Serangoon Garden Circus.

Itinerant hawkers and street peddlers were once common on Singapore's streets. By 1966, it was estimated that there were some 40,000 of them in the city, both licensed and unlicensed, offering cheap food and produce to the city's residents. However, they also sometimes obstructed traffic and often operated in less than sanitary conditions.

From the 1960s to 1980s, hawkers islandwide were registered and relocated into purpose-built markets and hawker centres. These were sited near places of employment such as industrial estates, as well as residential areas, where they continue to cater to food demand from local workers and residents today.

With the 1971 Concept Plan seeking to shift the population away from the city centre, Singapore developed self-contained housing estate towns, each with their own range of residential, commercial and industrial amenities. As part of this effort, hawker centres selling cooked food and wet markets selling fresh produce were constructed—often as a single structure—in the new housing estates, within walking distance of residents.

These centres were usually built and owned by HDB as part of the development of new towns. Generally, a hawker centre was provided in the neighbourhood centre. The National Environment Agency (NEA) took over the ownership and management of hawker centres in HDB towns in 2004.

Small provision shops, relocated from kampungs to the ground floors of housing flats, would provide food and daily necessities. The new towns were also designed to allow for a variety of retail outlets, including convenience stores, supermarkets and dry grocery shops in the town and neighbourhood centres—ensuring convenient access to food throughout each housing estate and making the new towns liveable and convenient.

(Bottom) Head of Urban Renewal Department Alan Choe (extreme right), explaining to Malaysian delegates about Singapore's city planning during their visit to MND in 1973.

Creating a Liveable and Green City

Reinvigorating the City Centre

By the 1970s, the successful resettlement and redevelopment of Singapore's Central Area as a commercial hub had led to what *The Straits Times* described in 1977 as the "sleeping city phenomenon"—after office workers had gone home for the day, the city centre was emptied out and lacked vibrancy. Senior Minister of State for National Development Tan Eng Lian was cited as saying that in addition to creating more residential and commercial developments in the Central Area, URA would need to come up with programmes to inject night life and to provide more open spaces and a more well-designed environment with better pedestrian access as well as social and recreational facilities.³²



In 1979, Permanent Secretary for National Development Howe Yoon Chong set up a Central Area Planning Team (CAPT) to coordinate planning and development in the Central Area. The advisory body, headed by URA's General Manager, comprised representatives from MND agencies such as the Planning Department, Development and Building Control Department, PWD (Roads), HDB and the Parks and Recreational Department.

A 1980 report prepared by CAPT prompted government planners to start focusing on the aesthetics of buildings and life in the city. Detailed urban design studies were carried out to find ways to enhance the urban environment by ensuring "high standards of development, aesthetic considerations and a broad mix of facilities".³³ Covering an area almost three times the size of the Central Area as traditionally defined, the report took into account land on both sides of the Orchard Road shopping belt, reclaimed land at Marina Bay, as well as sports and recreational areas in Kallang.³⁴

CAPT's efforts resulted in the creation of the Central Area Structure Plan 1985, which included an urban design guide plan and an overall three-dimensional concept for the city. The Plan enabled the future detailed planning of districts within the Central Area by providing a comprehensive framework for sustained urban development as well as efforts to conserve Singapore's unique built heritage, with seven areas gazetted for conservation—including Chinatown, Little India, Kampong Glam and Boat Quay. Besides preserving slices of history, retaining not only historic buildings but also the distinctive look and character of entire areas would enhance Singapore's appeal as a tourist destination.



Dilapidated pre-war houses and warehouses at Clarke Quay and North Boat Quay along the Singapore River, 1980.

While conservation did not become a priority until later decades, the importance of preserving Singapore's built heritage for future generations had been thought about even in the early days of nation-building.

Early Conservation Efforts

In the years after Singapore's independence, housing, economic development and other imperatives took priority over the preservation of Singapore's historical buildings and built heritage. Covered by the grime of decades of neglect, few saw the heritage, social and economic value of Singapore's unrestored shophouses and other storied buildings.

As early as the 1950s, planners and other civil servants had made sporadic attempts to identify and safeguard historic sites, but a systematic, sustainable programme of conservation would only emerge in later decades. Early government efforts to recognise and protect heritage places included a list of significant buildings in the 1958 Master Plan, and initiatives in the 1960s to retain the character of districts such as Little India, Chinatown and Kampong Glam.

In 1971, the Preservation of Monuments Act gave the Preservation of Monuments Board under MND the power to recommend places and issue guidelines for heritage protection. While the Board had regulatory powers, it found financial and other resources for conservation hard to come by in the 1970s. The restoration of Singapore's national monuments required

significant resources, and the Board's capacity was stretched after a number of conservation projects. In addition, the Preservation of Monuments regulations worked well with religious and public institutions but did not offer enough flexibility for privately owned buildings and heritage districts. A more systematic approach to conservation in Singapore would only come about later, in the 1980s.

Nature Conservation and Greening: Competing Pressures

Since 1967, when the nation embarked on its journey to be a Garden City, much of the greening effort was carried out by individual agencies such as the Singapore Botanic Gardens and the Parks and Trees Unit (established as part of PWD). In 1975, these two institutions were merged to form the Parks and Recreation Department (PRD). By consolidating the efforts under one institution, and through the formation of the Garden City Action Committee in 1970 to coordinate efforts across ministries and statutory boards, the transformation of Singapore into a Garden City became more streamlined.

While Singapore aspired to be a Garden City, pressures to deliver economic and social advances through urban development were strong, and few in government in the 1970s saw the value of safeguarding natural areas such as forests, mangroves and coastlines. Given the scarcity of land for housing and development, it was felt that Singapore could not afford the luxury of letting large stretches of natural land lie unused.



Within public agencies, there were few with the capacity to articulate the benefits of conserving Singapore's natural heritage. The Nature Reserves Board, set up in the 1970s under MND, faced constant demands from other public agencies to allow development of sections of Singapore's nature reserves. Several nature reserves were annexed for uses ranging from golf courses to recreational clubs.

Nevertheless, efforts to conserve what was left of the nation's forests and mangroves continued alongside efforts to plant more trees and shrubs in urban areas, even as new developments sprouted across the island.

To ensure that greenery would be incorporated into urban areas, regulations were drafted to ensure that provision of greenery would be a core component of any land development. The 1975 Parks and Trees Act set out guidelines for developers including HDB and Jurong Town Corporation (JTC), as well as private developers, to set aside spaces for trees and greenery in their projects. Guidelines also included ensuring new roads had sufficient planting areas, and expressways had spaces in between to allow sunlight to reach the plants growing underneath.

These greening efforts have continued until today, while the nascent efforts at conserving nature areas and native biodiversity are now bearing fruit.

(Top) Construction of Kent Ridge Park in 1978. Located on a ridge, the park continues to provide walkers with panoramic views of Sentosa, the CBD and the sea off Pasir Panjang.

(Right) CBD skyline, 1976.

An Era of Unprecedented Transformation

In the 1970s, comprehensive urban planning began reshaping Singapore into a modern city—a better home for Singaporeans and increasingly sought after by foreign investors, businesses and professionals. With a massive backlog of demand for public housing cleared and significant improvements made in commercial, industrial and transportation infrastructure, national development policies became oriented towards making a rapidly urbanising Singapore more liveable. This entailed improving the planning and amenities of residential neighbourhoods and precincts, reinvigorating a city centre now cleared of slums, and nurturing a green environment island-wide.

The unprecedented pace of urban and social change would soon reveal limitations in urban planning and developmental procedures, and highlight potential new sources of social tension, as the country's multi-ethnic population adjusted to a very different way of life in the high-rise HDB blocks that had become characteristic of residential living in Singapore. These emerging issues would shape national development priorities in the next decade, in which Singapore transitioned from Third World to First.





1980
1989

“In Singapore, sustained economic growth and higher incomes will raise expectations and aspirations for a higher quality of life. The amenities we provide must go beyond the basics. We must strive for quality, diversity and choice.”¹

S. Dhanabalan

Chapter Three

From Third World Towards First

East Coast Parkway in the late 1980s, with the CBD in the background and newly reclaimed land on the left.

Urban and Social Transformation

By the early 1980s, Singapore's successful efforts in building public housing and infrastructure and attracting foreign investment, had transformed the city into a thriving modern metropolis. The rapidly growing economy meant that demand for office space began to outstrip supply, resulting in a property boom in 1980 and 1981, which affected all segments of the market.² The surge in property prices prompted the government to announce measures to curb speculative activity and release more land for private housing. The resulting downturn in property prices was exacerbated by a stock market slump. By the mid-1980s, the Singapore economy was mired in its first recession since independence.

The recession was caused by a combination of external and internal factors. A prolonged global depression stemming from the 1979 oil crisis slowed global demand, hurting multinational corporations that had set up operations in Singapore. Many companies chose to relocate to cheaper locations elsewhere. In response, the Singapore government made a structural shift in the nation's economy, developing services as a second growth engine to complement manufacturing.

The property market downturn of the mid-1980s exposed serious inadequacies in Singapore's urban planning and development system. It triggered a major reorganisation of MND and its agencies to make them more transparent and efficient. A changing of the guard at MND's helm ushered in significant changes to planning and regulatory procedures, as the government sought to meet the needs of a more prosperous Singapore.

By 1989, over 80% of Singaporeans were living in public housing, with most of them owning their homes.³ The 1980s were also an era of social transformation, as the government recalibrated its public housing policies to nurture a greater sense of community and social cohesion among residents. In 1989, it stepped in to head off the formation of ethnic enclaves by setting ethnic quotas in public housing under the Ethnic Integration Policy (EIP) to ensure that Singapore remained an inclusive and well-integrated society.

As the 1980s progressed, Singapore blossomed into an attractive and liveable multicultural city with state-of-the-art infrastructure—including a modern airport at Changi and an expanded network of roads and expressways. In 1987, the much-anticipated MRT commuter rail system was launched. By the end of the decade, the government had set its sights on Singapore becoming a developed global city by the turn of the millennium.

Greater Transparency and Clarity in Processes

The boom and bust cycle in Singapore's property market in the 1980s drew attention to inefficiencies in the government's urban planning and development system. Developers had to navigate a bureaucratic "forest of rules",⁴ which created uncertainty. Development plans had to be submitted for approval by the relevant authority. This was the Public Works Department (PWD) and the Development and Building Control Department before 1989, and subsequently, the Urban Redevelopment Authority (URA). Only then would developers be advised on the permitted parameters for development, and how much of a premium they would have to pay as a development charge, based on the expected increase in value of the site after development.

During the property boom, this development charge could be many times higher than in previous years, leading some developers who could not afford the hefty charge to delay or scrap their projects.⁵ When the property market crashed in the mid-1980s, some sites were even returned to URA undeveloped.⁶ The fallout from volatility in the property market attracted public debate, with questions raised about the opaqueness of the government's development and approval procedures.⁷

Subsequently, Minister for National Development Teh Cheang Wan was investigated for allegations that he had taken bribes from two developers in 1981 and 1982 in exchange for favours.⁸ The scandal resulted in sweeping changes to MND's urban development policies, with the new Minister, S. Dhanabalan, and Permanent Secretary Ngiam Tong Dow, leading an overhaul of the planning regime to make it more efficient and transparent.

Zoning and plot ratio calculations were streamlined, and several complicated rules

were removed. MND put in place a standardised system to inform developers more clearly about planning parameters and the charges they could expect to pay. This replaced the lengthy and uncertain approval process of the past, where each development application had to be assessed case by case.⁹

More Responsive Planning and Development

During Dhanabalan's tenure, URA undertook a comprehensive review of the Master Plan. During this period, URA planners were sent out on foot to gather on-site data from every nook and cranny of Singapore. Their findings, guided by the land use strategies in the 1991 Concept Plan, formed the basis of the Development Guide Plans (DGPs), one for each of the 55 planning areas in Singapore. These DGPs helped to translate the Concept Plan at the local level and set the basis for sustainable growth.

Other planning reforms included planned revisions of the Concept Plan and the Master Plan, to better reflect changing economic and social trends affecting Singapore. Efforts were also made to incorporate feedback from extensive public engagements in the course of preparing these plans.

Following a high-level review in March 1987, the government's land acquisition powers—previously held by different agencies including HDB, URA and PUB—were centralised under the Ministry of Law's Land Office, which also became the custodian of all state land.¹⁰ The land acquisition process also became more rigorous: any proposals by government agencies had to obtain planning approval from a Master Plan Committee (MPC). Land administration would eventually be consolidated in 2001 under a new statutory board—the present-day Singapore Land Authority (SLA).¹¹

MND Reorganisation: Consolidating Functions

MND was also reorganised in January 1988. Among the key reforms that arose during this period, MND's Strategic Planning Division was given responsibility for land use planning, urban redevelopment and conservation, as well as for

reviewing the Master Plan. MND's Development Division was renamed the Housing Division and was tasked with handling policies for public housing. The Infrastructure Division was given additional responsibilities such as building control and development of the construction industry. Its other responsibilities included road transport and primary production.¹²

In 1989, MND's Planning Department and Research & Statistics Unit were incorporated into URA, to foster an integrated approach to urban planning across the whole of Singapore, and to pool relevant expertise under one agency.¹³ URA's property management arm—which had managed temporary resettlement centres since the 1970s to help businesses cope with displacement resulting from urban renewal—was spun off into real estate firm Pidemco. The firm would later merge with DBS Land to form CapitaLand.¹⁴

Initially helmed by Liu Thai Ker as Chief Executive Officer and Chief Planner, the reconstituted URA was designated the planning and conservation authority for all of Singapore—a role it performs to this day. Minister for National Development S. Dhanabalan noted in Parliament that "with the amalgamation of URA's expertise in Central Area planning, particularly in urban design, and Planning Department's experience in strategic planning, there will be better coordinated planning for the whole island".¹⁵

Delivery of the first MRT train at Bishan Depot on 8 July 1986.



Box Story

Ministers
of this
Decade

(Top) Minister for National Development Teh Cheang Wan (centre) opening the 10 km eastern section of the Pan Island Expressway from Jalan Eunos to East Coast Parkway, 1981. Also present are Parliamentary Secretary for National Development Lee Yiok Seng (front, second from left).

(Bottom) Minister for National Development S. Dhanabalan delivering a speech at the opening of the Central Expressway tunnels, 1991.

Teh Cheang Wan

February 1979–December 1986

During Teh Cheang Wan's tenure as Minister, HDB undertook the upgrading of older housing estates, with improvements such as lifts and water tanks. Executive HDB flats were introduced as part of plans to improve the quality of housing. MND's Planning Department began to craft plans to guide Singapore's development in the 1990s and beyond. A property boom in the early 1980s was followed by a slump in the middle of the decade, prompting Teh to defend URA in Parliament amid allegations that its land sales programmes had led to the market fluctuations. Teh was later investigated for allegations that he had taken bribes from two developers in 1981 and 1982 in exchange for favours.

Suppiah Dhanabalan

January 1987–August 1992

Suppiah Dhanabalan undertook sweeping changes at MND. He led the overhaul of the planning regime to make it more efficient and transparent. With his private sector experience, he introduced a greater sense of business savvy in the management of HDB. He backed private sector development of commercial facilities in HDB towns, and advocated differentiated pricing for HDB flats for a more accurate reflection of their values. Under Dhanabalan, the Ethnic Integration Policy was introduced in 1989, establishing a set of ethnic quotas in HDB blocks to prevent the formation of ethnic enclaves.

During his tenure, MND undertook a review of the 1971 Concept Plan, which led to the development of the 1991 Concept Plan. Home ownership rules were liberalised, more varied designs were introduced in public housing through the participation of private-sector firms in the Design and Build Scheme, and the management of housing estates was transferred from HDB to town councils.

“That’s a key part of our success: we not only built public housing, we built communities.”¹⁶

S. Dhanabalan

Housing a People

Housing: Meeting Aspirations
and Reshaping Society

The role of public housing in Singapore has been about much more than just putting a roof over peoples' heads. Besides creating a stakeholder society through home ownership, HDB's role was also to foster cohesive communities, and to help forge a Singaporean identity and an inclusive society by enabling citizens to share common experiences.¹⁷

The Changing Face of HDB Blocks

To meet rising public expectations from a more affluent population, HDB in the 1980s began to offer flats with better quality fittings, improved designs and to enhance common facilities in HDB neighbourhoods.¹⁸

HDB residents at Rajah Court, Balestier, enjoying a tea session organised by the Resident's Committee, 1982.



To add variety and to instil a sense of belonging among residents, there were also efforts to make housing estates more visually distinctive.¹⁹

Instead of monotonous “slab blocks” with shared corridors that had been commonplace since the 1960s, buildings distinguished by colour, different building materials, facade designs, motifs and roof designs began to appear in the 1980s.

For example, the sloping roofs in Potong Pasir were distinct from the flat building tops in Bedok, while blocks in Ang Mo Kio and Hougang stood out with their circular designs and curved balconies.²⁰ Height variations also created a jagged skyline.

Variations in street architecture—such as bus stops in Pasir Ris New Town with distinctive blue and white curved roofs—helped differentiate estates, and rooftop gardens on multi-storey car parks added a new dimension to the townships.²¹

Extensively landscaped, Sin Ming Court at Bishan was likened to a private housing estate, with its 15 HDB blocks sitting on “a gently undulating terrain, where footpaths lit by the garden lamps meander from block to block, linking the entire estate”.²²

The development of “precincts” comprising 600 to 1,000 housing units—against a neighbourhood with up to 6,000 units—built a greater sense of community with its own shopping and recreational facilities, kindergarten and coffee shops.²³



Community Bonding and Engagement: Town Councils

While the public housing programme had provided the majority of Singaporeans with better homes and access to amenities, high-rise HDB living made it more challenging to foster the strong sense of community (or “kampung spirit”) that had characterised village or neighbourhood life in the past. Although resettlement into high-rise HDB flats provided greater privacy, residents also tended to be more isolated from one another. New forms of community engagement had to be developed to bring Singaporeans together in a changing urban landscape.

By the 1980s, a range of grassroots organisations had emerged to coordinate activities for residents, but none empowered citizens to take greater ownership and accountability for the

running of their neighbourhoods. To fill this void, the establishment of Town Councils was proposed in 1984 to give residents a greater say in the day-to-day running of their estates—including some tasks that had been overseen by HDB in a centralised manner, such as cleaning and landscaping.²⁴ Town Councils, whose members were mainly residents, would allow individual estates to develop their own initiatives according to the needs of their local communities.²⁵ The passing of the Town Council Act in 1988 allowed the councils to control, manage, maintain and improve the common property of their HDB estates.²⁶

As regulator, MND was tasked with overseeing the Town Councils, holding them to standards of accountability, financial adequacy, transparency and performance, and ensuring that the Councils carry out their duties for the benefit of their residents.

(Top) A playground and green space in Bukit Batok New Town, 1985.

(Right) Front page of *The Straits Times* on 17 February 1989, announcing the new Ethnic Integration Policy (EIP).

“If the movement towards separate community enclaves continues for another 10 or 20 years, we would be back to where we started before independence.”²⁷

S. Dhanabalan



To support the work of the Councils, MND would provide them with government grants, and would design programmes to promote good governance practices.

Ethnic Integration Policy

In the late 1980s, ethnic enclaves began to emerge in the new HDB townships. A growing resale market for second-hand HDB flats—with buyers often choosing larger flats closer to workplaces or relatives—led to ethnic communities clustering in particular estates.²⁸ For example, many ethnic Chinese residents gravitated towards Hougang and Ang Mo Kio, while many Malay residents moved to Bedok and Tampines. In some estates, one ethnic group made up more than 90% of the resident population.²⁹

The government was concerned that with a lack of diversity and reduced interaction among communities, such enclaves might eventually reduce interracial understanding and undermine the harmonious social relations Singapore had so carefully cultivated since independence.³⁰

Minister for National Development Dhanabalan tasked HDB with introducing measures to ensure a “balanced ethnic composition of residents in its public housing estates”.³¹ The Ethnic Integration Policy (EIP) was implemented on 1 March 1989, imposing a set of ethnic quotas to ensure a balanced mix of the various ethnic groups within HDB estates and to prevent the formation of ethnic enclaves. The policy affected 20 HDB New Towns and several housing estates.³²

Because the policy would also affect the resale of HDB flats, since only sales that complied with the quotas would be permitted, the move was expected to be unpopular. HDB CEO Liu Thai Ker led a team that carried out extensive public consultations before the policy came into effect. This exercise was credited with earning widespread public acceptance of the new measures.

Box Story

Hotel New World Collapse

On the morning of 15 March 1986, strange sounds were heard around the six-storey Lian Yak Building, which housed Hotel New World, in the Serangoon Road area. A minute later, the entire building collapsed into rubble, killing 33 people. It was one of the deadliest civil disasters in post-war Singapore.

A Commission of Inquiry (COI) found that structural faults and poor construction quality had led to the collapse. A serious error in the calculation of the building's structural load at the design stage—the weight of the building itself had been omitted—had left the 1971 building vulnerable to collapse since the day it was built. Over the years, the addition of loads such as air-conditioning equipment and the lack of proper maintenance contributed to the disaster. Following the COI report, buildings across Singapore were rigorously checked for structural safety. Those found to be unsafe were evacuated until defects could be fixed.

The tragic incident was a watershed moment, leading to the tightening of building regulations and safety standards for construction and maintenance. Prior to the collapse, structural plans did not have to be approved during the design phase. After the incident, structural plans had to be prepared by qualified engineers, checked and certified by accredited professionals, and submitted for approval. Completed buildings would also have to be inspected by structural engineers during the post-construction phase to ensure that the structures were maintained in good condition. Today, building owners are expected to carry out structural inspections every five years for non-residential buildings and every 10 years for residential buildings.



(Left) The deadly collapse of Hotel New World in 1986 led to tighter building codes to prevent similar accidents from occurring in future.

(Bottom) A farmer watering crops at Jalan Murai, opposite Lim Chu Kang Road, 1987.

Building for Economic Growth

Expanding Economic Activities

The accelerating pace of industrialisation throughout the early 1980s led to a corresponding expansion in the number and size of industrial estates. After 1985, with Singapore plunged into its first recession since independence, the government switched to a twin-engine economic strategy that included service industries and manufacturing. This gave rise to a new type of industrial development: business parks.

At the same time, rapid industrialisation and urbanisation, coupled with the creation of reservoirs to capture rainwater, had drastically reduced the amount of land used for farming.

The focus of the agriculture sector shifted from food production to modern agrotechnology parks. With Singapore relying ever more on food imports, food safety became a key priority.

From Farming to Agrotechnology

By the 1980s, rapid urbanisation, infrastructure development and water catchment reserves had shrunk available agricultural land in land-scarce Singapore to a little over a tenth of what had existed in the 1960s. Agriculture and farming in Singapore had to be overhauled.

The redevelopment of Changi to accommodate the new airport meant relocating residents, tradesmen and fish farmers to HDB estates in areas such as Bedok New Town, Kallang Basin, Eunos and Haig Road.³³



Box Story

Marina Bay, Reimagined

In 1987, Prime Minister Lee Kuan Yew had predicted that technological breakthroughs in 20 years' time would make it possible to “dam up or put up a barrage at the mouth of the Marina, the neck that joins the sea, and we'll have a huge freshwater lake”.

As part of plans to make Singapore a global city, Marina Bay was envisioned as a “Water Padang”—a focal point similar to the historic Padang green near City Hall where celebrations such as National Day and New Year's Eve could be held.

Converting Marina Bay into a freshwater reservoir would enhance Singapore's water security by boosting its water supply and also serve as a form of flood control for the central parts of Singapore. Improvements in membrane technology eventually allowed this vision to be realised.

With the completion of the Marina Barrage in 2007, Marina Bay would become part of an urban reservoir which included the Singapore River, now a bustling entertainment district.



In 1986, URA set aside 3,555 ha (35.55 km²) for agrotechnology parks at six locations—Lim Chu Kang, Murai, Sungai Tengah, Nee Soon, Loyang and Ama Keng.

Towards a Better Building Industry

By requiring high standards of its contractors and promoting more productive technologies through training schemes and other incentives, HDB—with its extensive public housing building programmes—had become an active leader in uplifting productivity and professionalism throughout Singapore's construction sector. In the 1980s, MND began to focus more on enhancing the quality of the built environment and the capabilities of the construction industry.

To further advance the industry, the Construction Industry Development Board (CIDB) was formed in 1984 as a statutory board under MND. The board was tasked with coordinating, spearheading, promoting, developing and monitoring the industrialisation of the construction industry, and with nurturing a skilled workforce. The Board created and maintained a centralised registry of contractors and carried out skills-testing as well as training for construction workers.

However, there was still no requirement for the structural design and safety of a building to be certified before construction.³⁷ This changed after the collapse of the Hotel New World (Lian Yak Building) in March 1986, in which 33 people lost their lives. The incident, which was found to have been caused by structural faults and poor construction, spurred a series of building code reforms and the tightening of regulations.

In 1989, a new building regulation was introduced to ensure that structural plans had to be prepared by qualified engineers and certified by accredited checkers before they could be approved. More frequent structural inspections were also mandated. Building owners were required to carry out structural inspections every five years for non-residential buildings and every 10 years for residential buildings, failing which they would be penalised.³⁸

By the late 1970s, pig farming had been phased out of the water catchment areas of Kranji and Pandan to prevent their run-off from polluting reservoirs, and relocated to Punggol and Jalan Kayu. By the early 1980s, however, pig farming was considered economically unviable, given the scarcity of land and water as well as the high cost of treating pig waste.³⁴ In 1984, it was decided to phase out pig farming entirely. The last farm closed in 1989.

Singapore's agriculture sector began shifting towards the development of agrotechnology parks for the intensive cultivation of prawns, fish, vegetables and eggs—staples of the city-state's food supply. With a decline in local food production and an increased reliance on imports, food safety became a greater concern—a responsibility given to PPD.

An economic review conducted by the Ministry of Trade and Industry to address Singapore's recession in the 1980s had identified agrotechnology as an area for Singapore to develop.³⁵ PPD, URA and other agencies worked together to identify land that would be suitable for intensive farming. To garner support, PPD arranged for then-Finance Minister Richard Hu to visit the Lim Chu Kang area to understand the viability and importance of the agrotechnology parks. He supported the initiative, granting \$200 million for its development, a princely sum in the lean times following the recession.³⁶

(Left) Aerial view of hotels in the Marina Bay area, with the Benjamin Sheares Bridge and land reclamation works visible in the background, 1984.

(Top) A pig farm in Kampong Tongkang Perhat in Lim Chu Kang, 1986. Pig farming was completely phased out by 1989 due to concerns over water and air pollution.





“If you tear down all these old historic areas with their charm and historical roots that give you a sense of identity....Singapore would be a city without soul, without history, without feeling.”³⁹

Koh-Lim Wen Gin

Creating a Liveable and Green City

Singapore's First Comprehensive Conservation Plan

The roots of Singapore's conservation policy and practice today lie in the efforts of URA planners working on the Central Area Structure Plan: a team formed in 1979 to coordinate development and planning efforts within the island's economic and civic heart.

Unlike earlier efforts to protect individual buildings and sites, URA planners sought to create a framework for the conservation of districts and areas with strong historical roots. The planners pushed for a systematic programme of conservation. Over 18 months, they drew up a comprehensive list of several thousand historic buildings and places, documenting their heritage and architectural value as well as developing criteria and guidelines for potential conservation sites.

Traditional shophouses in Chinatown in the early 1990s, before conservation works took place.

URA presented its case for conservation to Cabinet. One argument was that Singapore's built heritage gave the city distinctiveness and helped distinguish it from cities elsewhere. Conserved buildings could also be adapted and repurposed, for instance to support tourism or for other commercial uses. Minister for National Development S. Dhanabalan argued that “we need to maintain a certain character for Singapore”, noting that “if you knocked down all the old buildings, what will come in its place is very modern buildings, no different from modern buildings in New York, or Hong Kong or Shanghai”.⁴⁰

This argument struck a chord, as Singapore was seeking new engines of economic growth following the recession of the early 1980s. The upcoming availability of reclaimed land in the Marina Bay area reduced pressure to redevelop older parts of the city. With primary issues such as housing largely settled by the 1980s, the public had turned their attention to speaking up for the places they knew, loved and hoped would be preserved despite the relentless pace of urban redevelopment.



(Left) Minister for National Development S. Dhanabalan unveiling the Preservation of Monuments Board plaque at the Raffles Hotel, 1992. On the right is Minister of State for National Development Lim Hng Kiang, who went on to become Minister for National Development in 1995.

(Bottom left) The façade of the shophouse at 9 Neil Road in Tanjong Pagar, before and after restoration works.

(Bottom right) CBD skyline, 1986.



Having made the case for conservation, URA and MND focused on strategies to ensure that conservation was sustainable for the long term. They lifted rent controls for affected properties that complied with stipulated conservation standards. This helped give the private sector a stake, allowing commercial resources to be brought to bear in the expensive conservation effort.

As Singapore's urban planning and development agency, URA was empowered to designate conservation areas and to create and enforce detailed conservation guidelines. The Conservation Master Plan—parts of which had been shown at the first exhibition of the Central Area Structure Plan in 1986—was finalised in 1989, with seven conservation areas gazetted.



However, the economic case for restoring heritage properties was not always clear at the start. To jumpstart the effort, URA carried out pilot restoration projects with selected shophouses already acquired for comprehensive redevelopment, to show that conservation guidelines were viable. Public agencies worked together to improve streetscapes and other infrastructure in conserved districts.

The experiences of developing conservation strategies and policy, conducting conservation research and engaging the public on what they held important shaped other aspects of urban planning and development in later years.⁴¹

A New Blueprint for a Global City

In September 1989, following a review of the 1971 Concept Plan, Minister for National Development S. Dhanabalan unveiled the government's vision to make Singapore "the first developed city on the Equator" by the end of the century.⁴² Besides building better quality housing for a more affluent and growing population, the government would decentralise activities away from the city centre by creating a constellation of regional commercial centres, sub-regional centres and fringe centres. It would also launch a land reclamation programme to increase Singapore's land area by about 17%.⁴³

Decentralisation would be a key strategy for housing a projected future population of four million. To take the lead, the government relocated several of its departments away from the CBD to reduce congestion and to make optimal use of the new MRT system that had started operations in 1987.

In addition to creating more nodes of activity along the MRT lines, decentralisation would also allow the building of more housing in the city area and bring more residents back to it. This would help bring about a better balance between employment opportunities and housing in Singapore.⁴⁴

In 1989, URA announced a \$180 million reclamation project to create a "new downtown for the 21st century" at the Marina Bay and Telok Ayer basin, to be completed in three years.⁴⁵ The expansion would lead to developments to meet the future needs of a global city where Singaporeans and expatriates could live, work and play.

These ideas would be brought together and enhanced in the 1991 Concept Plan, signalling a new phase in Singapore's evolution.





1990 1999

“The Government has taken a multi-pronged approach to overcome Singapore’s physical constraints....Meeting the varied needs of the nation requires planners to perform a difficult balancing act.”¹

Lim Hng Kiang

Chapter Four

Building the Next Lap

Bishan Park, 1991.
Completed in 1988, the park was constructed to provide a buffer between Bishan and Ang Mo Kio New Towns.

A New Phase in National Development

By the end of the 1980s, critical questions of national survival, foremost among them housing and job creation, had been addressed. Singapore enjoyed a world-leading public housing system and had seen decades of economic growth. Citizens, whose basic needs had been met and who had worked hard to provide for themselves and their families, now aspired to the finer things in life as well as a different pace of life.

A maturing, open economy was also becoming more reliant on knowledge-based activities and services, driven by skilled international talent drawn to the world's most dynamic and liveable cities. In order to stay relevant in a changing world, Singapore would have to fully embrace its position as a global city.

The need to level up Singapore's paradigm of development was well-recognised. In a publication that laid out the philosophy and ideas behind the 1991 Concept Plan, URA noted: "Like the child drawing his perfect world, our concerns need not be focused purely on the practicalities of life. Now we can turn our thoughts to adding more value, more colour and more quality to our unique island-city-state.... It is time to help people reach out towards those ideals, to give them more choice in their living, working and recreational environments."²

In the 1990s, national development was shaped by these expectations in a variety of ways. MND and its agencies sought to improve public housing options and to build communities. Building on the foundation of Singapore as a Garden City, they worked to make greenery a more integral part of the urban environment while putting in place the frameworks for conserving the natural environment.

"We had already made a big leap forward, so we could no longer live with the 1971 Concept Plan.... That was the motivation for the 1991 [Concept] Plan."³

Liu Thai Ker

Urban planning and design sought to support economic shifts and greater globalisation, while the building industry—a key player in manifesting the vision of a global city—would become safer, more productive, and more innovative. Many of these ideas were articulated in the 1991 Concept Plan, which was titled *Living the Next Lap: Towards a Tropical City of Excellence*.

1991 Concept Plan: A Blueprint for the Next Lap

The 1991 Concept Plan was the first long-range urban development plan for Singapore since 1971, and the first to be drawn up and executed without foreign assistance. By the mid-1980s, the nation's growth had outpaced the planning parameters of the 1971 Concept Plan, which had been shaped by the pressing housing and economic imperatives of its time. The 1991 Concept Plan advanced a vision to transform Singapore into a "city within an island which balances work and play, culture and commerce; a city of beauty, character and grace, with nature, water bodies and urban development weaved together."⁴

A key proposal of the 1991 Concept Plan was the "Green and Blue Plan" which sought to develop a well-connected network of natural parks, green spaces and waterways to provide people with a greater variety of leisure and recreational options. More beaches, marinas, resorts and entertainment parks were envisioned to create a more attractive, accessible coastline. These proposals marked a shift towards creating a more vibrant and playful city. In line with these aspirations, the 1990s saw the formation of the National Parks Board (NParks), a milestone that represented a paradigm shift in the way Singapore thought about the conservation and sustainable use of natural spaces.

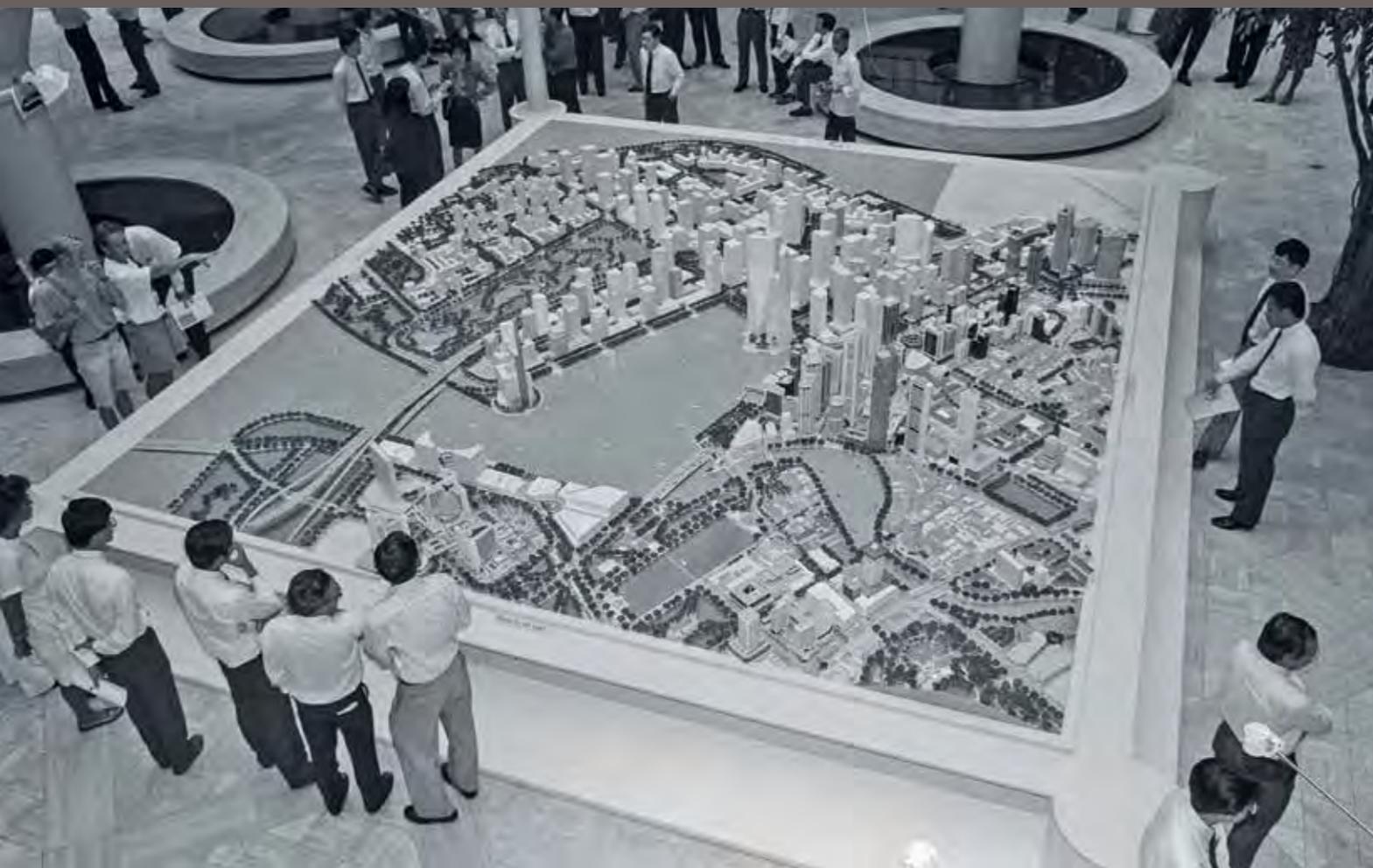
Today, the 1991 Concept Plan is also remembered for its strategy to decentralise economic, industrial and cultural activities across the island. The Plan built on efforts since the late 1980s to enhance the identity and quality of the city through conservation and urban design, create more lifestyle choices as well as development to support economic growth and restructuring. It elaborated the Central Area Structure Plan, and catered for the growth of the Central Area beyond the year 2000. A number of new land use ideas were also crystallised in the 1991 Plan, including the integration of land use and transport planning (as part of decentralisation efforts), and the positioning of public transport as "the first organising principle" of Singapore's urban system.⁵

Greater Transparency and Flexibility

With URA's 55 Development Guide Plans completed in 1998 and the subsequent gazetting of the Master Plan, the steps taken in the late 1980s to establish a more transparent and efficient urban development process could now bear fruit.

With better projections for anticipated land use, more flexibility became possible for government land sales in the 1990s, catering to deviations of actual demand and supply from forecasts. In 1997, a new two-envelope Concept and Price (C&P) tender system allowed non-price factors such as architectural design and business concept to be taken into consideration for strategic sites, especially in prominent city-centre locations.

MND's Strategic Planning Division had overseen many of the changes to Singapore's planning system since the late 1980s. In the new decade, the more open and transparent planning system would make Singapore's real estate industry more attractive to foreign investors. New instruments such as Real Estate Investment Trusts (REITs) nurtured a more mature and sophisticated capital market. The forward-looking government plans gave rise in the 1990s to a new phenomenon of en bloc development, whereby owners of strata titles, or even landed property, could profit from the collective sales of their properties for redevelopment. Singapore's economic success meant that the built environment had become more than functional spaces meant to house a family or a business—they had become valuable assets in themselves.



Opening of the Singapore River and Downtown Core Development Guide Plans Exhibition at Raffles City Shopping Centre, 1992.

Box Story

Ministers
of this
Decade

Richard Hu Tsu Tau

September 1992–January 1994

During his stint at MND, Richard Hu was concurrently Minister for Finance. He oversaw the implementation of the 1991 Concept Plan, including the decentralisation strategy, the more imaginative use and protection of green and blue spaces, and the development of diverse housing options. His tenure also saw NParks and URA collaborate with the Ministry of the Environment on the 1992 Green Plan, Singapore's first blueprint for the environment.

Lim Hng Kiang

Acting Minister | January 1994–April 1995

Minister | April 1995–June 1999

Before becoming Minister for National Development, Lim Hng Kiang had been MND's Deputy Secretary and Senior Minister of State, as well as CEO of HDB. Having worked on the Main Upgrading Programme as a civil servant, he oversaw it as Minister and introduced the Selective En bloc Redevelopment Scheme (SERS).

Lim is remembered for initiatives to make home ownership more affordable for lower-income families, introducing studio apartments for the elderly and the liberalisation of HDB resale and rental markets. During the 1990s, MND responded to a property bubble and the Asian Financial Crisis in succession, through cooling measures and increasing public housing supply.



(Top) Minister for Finance and National Development Richard Hu on an official visit to the Singapore Botanic Gardens, 1992.



(Bottom) Minister for National Development Lim Hng Kiang greeting residents in the Kampong Ubi Division of Marine Parade Group Representation Constituency (GRC), 1999.

Housing a People

Levelling up Singaporean Living

As the 21st century approached, Singapore had grown more affluent as a society, and aspirations for high-quality living environments had risen in tandem. By 1989, the newspapers were noting the trend of Singaporeans “upgrading” from smaller to larger HDB flats as families became wealthier.⁶ The government had also recognised the upswing in younger families moving out of older estates and their preference for more modern flats. To keep up with these expectations and aspirations, public and private housing had to provide more than just a roof over heads and basic amenities. It was clear that established estates had to be made more liveable, and a greater variety of housing options had to be made available.

HDB Upgrading

In July 1989, the government announced a long-term HDB upgrading programme. According to Minister for National Development S. Dhanabalan, the goal was to bring about “a quantum change in the quality and character of public housing”.⁷

While HDB had carried out improvement projects since the 1970s, this was the first comprehensive, nation-wide renewal programme. Encompassing the interiors of individual flats, the architectural elements of HDB blocks as well as common areas and public spaces, the programme also sought to create more distinctive estate identities and to foster more intimate communities with precincts of between 7 to 10 blocks.

The cost of upgrading some 500,000 flats and estate areas would be borne by the government, town councils and flat owners, with the government taking on the larger share. Flat owners were asked to vote for the extent and type of improvement works they wanted, and to pay for the upgrading with their Central Provident Fund (CPF) savings.⁸

The comprehensive upgrading of public housing brought the standards of the older flats closer to the newer ones. This would ensure that HDB residents could continue to enjoy a high-quality living environment.

Just as breaking the back of the post-war housing crisis had required a Herculean effort from HDB, the upgrading programme also demanded much of the agency. Singapore was one of the first countries in the world to carry out upgrading on such a grand scale. Extensive planning had to be undertaken to minimise inconvenience to residents, who continued to live in their flats while the improvement works were being carried out.⁹

A Greater Variety of Public Housing Options

The 1991 Concept Plan recognised the need to increase the variety of housing. To this end, it recommended phasing out less productive industries within prime residential areas, and land reclamation to enable the development of different living environments such as waterfront housing. The Plan called for standards in public housing to match or even exceed those of private residential developments.

The Design and Build Scheme was introduced in 1991 to apply private sector design expertise to public housing, within HDB's framework of cost and owner eligibility.¹⁰ These schemes helped to meet the aspirations of graduates and young professionals who were concerned that private property was getting out of their reach. HDB also continued its efforts to emphasise the diverse identities of its estates, through the construction of landmark buildings, landscaping and distinguishing architectural features.

“The key was to provide a variety of housing options because it is not possible to have a one-size-fits-all solution.”

Lim Hng Kiang

Box Story

Gearing up for HDB Upgrading

To prepare for what would become the Main Upgrading Programme for HDB flats, MND teams visited cities in Europe to view and learn from upgrading projects there. The study trips underlined the importance of maintaining good relations and communication with residents during upgrading, and of using a wide variety of materials and techniques.

Former Minister for National Development Lim Hng Kiang, who was Deputy Secretary in MND in the 1980s, recalled: “In France, what we saw were public housing and council housing which they upgraded in quite a major way because there was not enough insulation so they had to improve the insulation. And then they added a touch to it with a balcony so that in summer you can sit on the balcony and enjoy the sun. We were very struck by that and said, ‘Look, if these people can add a balcony, we can add a room.’”

A demonstration phase for the Main Upgrading Programme was announced in 1990 with some 6,000 flats in various estates. Beginning in 1991, upgrading techniques and technologies were tested on vacant flats in Teban Gardens and Woodlands. A group of HDB staff and their families volunteered to live in these flats during the retrofitting and renovations, to simulate the conditions in which the upgrading would be taking place and to ensure realistic feedback on inconveniences such as noise and dust.

Measures were taken to mitigate inconvenience for residents during upgrading works, such as the use of pre-cast components and dry construction methods, regularly updating residents on work schedules, stationing project managers on-site, clearing debris and tools from flats and common areas each day, providing temporary toilets, air-conditioned rest and study areas, and having plumbers and electricians on call 24 hours a day. For the rooms, balconies and kitchen space to be added, pre-cast upgrades were stacked and fixed to each flat from outside the block. When each vertical row of additions was completed, the walls between the additions and the flats were removed.

The main phase of the Main Upgrading Programme began in 1992, with the first batch of estates being Bukit Merah, Bukit Ho Swee, Kallang Airport, Queenstown, Boon Lay and Balestier/St. Michael’s Estate. The Main Upgrading Programme ended with the completion of the last precinct in Teck Ghee in 2011. A total of 128 precincts comprising about 131,000 flats had benefitted from the programme.



(Left) HDB flats at Ang Mo Kio Ave 10 were upgraded under the Main Upgrading Programme (MUP) started in 1991.

(Top right) HDB blocks and a neighbourhood park in Bishan North, 1993.



Managing the Market

The work of MND and HDB has broader implications beyond the physical buildings they plan and build. From the late 1980s to the early 1990s, HDB liberalised the resale market, and revised the HDB loan reference for resale flats to bring it closer to market practice. Coupled with an increase in household wealth, rising construction costs and other bullish macroeconomic factors, the property market heated up, with the private housing price index more than tripling between 1990 and 1996.¹¹ Policy responses had to balance affordability for new homebuyers, preservation of asset value on the part of homeowners, and the property market’s effects on the wider economy.

To help cool the market, the government increased the supply of HDB flats and land sales for private residential developments. To ensure that resale flats were an affordable housing option

for families, the CPF Housing Grant Scheme was introduced in 1994 to subsidise the purchase of resale flats. Further measures to cool the property market and to constrain property speculation were introduced in both the public and private housing markets in 1996. For public housing, each household was limited to two concessionary housing loans, and the resale levy policy was revised. For the private housing market, these measures included time-limited capital gains taxes on home sales,¹² stamp duties¹³ and limiting home loans to 80% of property value.¹⁴

MND continued to watch the situation closely. When the 1997 Asian Financial Crisis led to sharp falls in property demand and values, land sales were temporarily halted. Faced with an oversupply of flats at the turn of the decade, HDB switched to a “Build-To-Order” (BTO) system in which the construction of new projects would commence only when there was sufficient take-up.

Building for Economic Growth

Decentralising Economic Activities

In the 1990s, Singapore's industrial efforts were focused on higher value-added science, technology, and research and development (R&D) aspects of sectors such as chemicals, biotechnology, pharmaceuticals, electronics and engineering. As part of the strategy of creating technology corridors outlined in the 1991 Concept Plan, business parks were planned and built in Jurong, Changi and other areas to support R&D and innovation capacity-building.¹⁵ The business parks and innovation hubs were located near institutes of higher learning, major transport nodes and regional centres to bring together researchers, engineers, enterprises and academia, as well as to create jobs closer to residential areas.

Industries with a high environmental impact, such as petrochemicals, were grouped together and sited away from residential areas, with the Jurong Island complex opening in 2000. Light, non-pollutive industries were

allowed near housing estates to reduce distance and time spent on work commutes.

The decentralisation of economic and other activities also helped to reduce congestion in the Central Area. Four regional centres were identified: Tampines to the east, Woodlands to the north, Seletar to the northeast, and Jurong to the west. Infrastructure such as MRT stations, offices and industrial spaces were developed to nurture the growth of these nodes into the commercial and transportation hubs of their respective regions. Sub-regional centres and fringe centres further helped to fan growth throughout Singapore.

The CBD remained the prime location for many sectors, with strong interest from the financial sector and multinationals in setting up offices in the downtown area. In line with global trends at the time, it made sense to move some activities, such as back-end support offices, away from choice but expensive central areas: it saved on business costs, tapped on the workforce closer to where they lived, and reduced congestion downtown.



(Left) Oil refineries on Jurong Island, which was officially opened in 2000.

(Top right) Official opening of Informatics headquarters at the International Business Park in Jurong on 9 January 1995.

The first regional centre to be established was Tampines. While the regional hubs were already logical, accessible locations, planners still needed to encourage the build-up of a critical mass of businesses, infrastructure and residents for them to take off. In the case of Tampines, HDB acted as sales agent, and sold eight plots of land for finance park development under the GLS Programme. Private developers were required to use a large proportion of the buildings for financial businesses or banking backroom operations. This helped to anchor the financial sector in Tampines, contributing to its development as a regional hub.

As Singapore's economy moved into more knowledge-based and higher value-adding industries and economic sectors, efforts in the 1990s to improve the living environment therefore had economic benefits as well—even as citizens' quality of life increased, a more liveable city would also become more attractive to the global talent Singapore needed.

Raising Standards in Construction

While systematic measures had been taken in the 1980s to improve the construction industry, professional standards among builders still varied widely; many had yet to reach the excellent levels of construction quality, safety and productivity needed by a rapidly modernising Singapore.

To coordinate a multi-sector approach to advancing the sector, a Construction Industry Joint Committee was established in 1997. It brought together professional institutions and associations in the fields of engineering, real estate, architecture, building, surveying, urban planning and project management. This was to encourage inter-disciplinary collaboration and collectively raise standards.

In 1999, as part of government efforts to separate policy and regulatory functions from executive arms, the Building Control Division was removed from PWD (which was corporatised) and merged with the Construction Industry Development Board (CIDB). This new agency, the Building and Construction Authority (BCA), was tasked with regulating the industry and advancing its standards.



Better Regulation with the Board of Architects

The Board of Architects (BOA) is the statutory authority established to administer the Architects Act in Singapore. The 1991 Architects Act sets out provisions to provide for the registration of architects, the regulation of architectural qualifications, the practice of architecture by registered individuals and the supply of architectural services by corporations.¹⁶

Beginning with the 1926 Architects Ordinance, which provided for the registration and regulation of the qualifications of architects under the British administration, the Architects Ordinance or the Architects Act as it is known today evolved over the years in light of transitions within Singapore.

The Architects Act today lists a host of ethics, codes and regulations that provide the framework for maintaining professionalism in an increasingly competitive business climate. Registration is stringent; the Board requires registered architects to adhere to a high code of ethics and to fulfil with complete integrity their obligations to clients, the profession and the public.



Creating a Liveable and Green City

Island Living

A key approach of the 1991 Concept Plan was to capitalise on Singapore's island heritage. Beaches and coastlines, rich with potential for leisure and nature conservation, had been somewhat of an afterthought in previous decades, but would come to be seen as assets for a vibrant, liveable tropical city in the 1990s and beyond.

In Sentosa and other areas, marinas, resorts and other leisure facilities were developed, while waterfront living was identified as another of Singapore's

draws. Waterfront living was also made a feature of the HDB new town of Punggol, which offered residents views and easy access to Singapore's northeastern coastline. Elsewhere across the island, enhancements were made to water bodies such as rivers, basins and reservoirs to make them attractive and accessible for public recreation.

Singapore's efforts during this era to make more of the natural environment were layered onto past decades of greening, which had already made provisions for trees and green verges to be developed within the built urban environment. In 1991, the Garden City Action Committee approved the proposal



(Left) The Park Connector along the Kallang River near Bishan Road, pictured here in 1992, was the first in Singapore to be completed.

(Top) Families enjoying a day out by the sea at Pasir Ris Park in the 1990s.

put forward by NParks for a comprehensive network of park connectors that linked up green spaces, thereby allowing the community to explore parks and other green spaces across the island. Kallang Park Connector was the first to be completed, in 1995. The Park Connector Network (PCN) integrated the island's waterways with residential areas and other districts. By utilising unused spaces such as under MRT viaducts, and building on top of drainage reserves, many of which run alongside canals, PCN users were able to enjoy scenic views. This relieved

the monotony of what had often been concrete banked canals, and provided recreational access to attractive walking and cycling paths running alongside waterways. These and other related approaches echoed the prevailing thinking that shaped such initiatives as the 1992 Green Plan, Singapore's first environmental blueprint, on which NParks, URA and the Ministry of the Environment among others collaborated, and in which biodiversity conservation was first articulated as a developmental priority.

Rethinking Nature in the Garden City

The National Parks Board (NParks) was established in 1990 with the national parks of Singapore Botanic Gardens and Fort Canning Park, and the nature reserves, under its ambit. In 1996, NParks was expanded to include the remaining portfolios under the Parks and Recreation Department, which were parks and recreation, as well as the management and maintenance of greenery.

The new NParks saw its role as more than simply supplying Singapore with trees and plants. With its broader scope, NParks took a more holistic approach to the conservation of biodiversity and nature areas, maintenance and provision of roadside greenery, parks and recreation. It aimed to optimise Singapore's urban spaces for greenery and recreation, and to create a biodiversity-enriched urban environment. Such spaces would relieve the stresses of high-density urban living, and could also bond communities by facilitating interactions across social groups in a pleasant, relaxing shared environment.¹⁸ There was a greater focus on conserving the nature reserves and other nature areas, backed up by the creation of nature parks

such as Sungei Buloh, which was gazetted as a Wetland Reserve in later years. No longer regarded as an unproductive resource to be sacrificed in the name of development, Singapore's natural heritage could play a more involved and integrated role in the city's next lap of development.

The formation of NParks also saw a greater focus on research, education and outreach at the Singapore Botanic Gardens and in nature areas. Working with a wide range of partners in government and civil society from the outset, NParks sought to play a vital role in bridging relations between scientific experts, nature-loving communities and the government. It built up its domain capabilities and was able to present more clearly and effectively to government the case for nature conservation, by clarifying the ecological, economic and social benefits of natural spaces. Together with public agencies such as URA and PUB, NParks helped to make greenery provision an integral part of urban planning, infrastructure development and social provisioning. Since its inception, NParks has continued to grow as an effective steward of the natural environment, helping to expand the role that nature plays in Singaporean society.

“NParks should be with MND. We are dealing with the country's infrastructure.”¹⁷

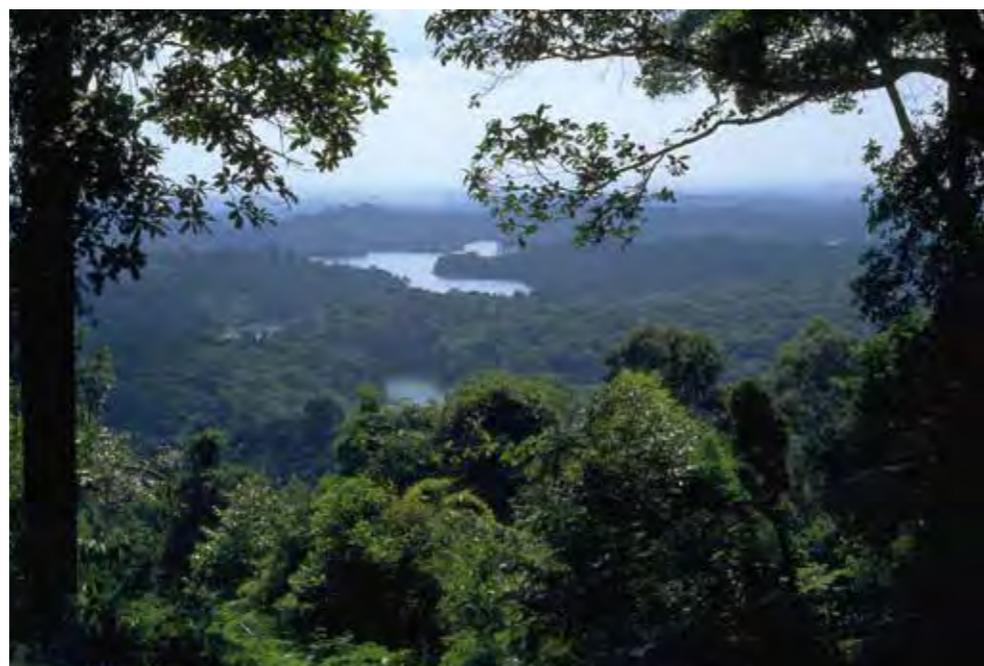
Kiat W. Tan



Towards a More Liveable and Sustainable City

The 1990s saw Singapore step up its efforts to build a city equal to the heightened expectations of its people, from high quality housing and living environments to a flourishing diversity of lifestyle and cultural options. The growing realisation that the health of Singapore's natural environment is inextricably linked with the city's liveability and sustainability led to a paradigm shift in the country's thinking, encapsulated in the milestone establishment of NParks as the steward of Singapore's natural heritage.

The 1991 Concept Plan paved the way for more systematic urban planning, while the decentralisation strategy and regional centres introduced then continue to be relevant today. Elsewhere on the economic front, MND agencies supported the diversification and upgrading of Singapore's economy, planning and developing business parks, industry clusters and other infrastructure for moves into sectors such as wafer fabrication, chemicals and biomedical sciences. Already plugged into the rich opportunities and mobile flows of the global economy, Singapore was well on its way to becoming a global city—even as it sought to clarify and celebrate its own distinct character and heritage.



(Right) View from Bukit Timah Nature Reserve, 1994. Established under the British in 1883, it was one of Singapore's first forest reserves.

(Far right) Greenery lining an overhead pedestrian bridge in Telok Blangah, 1990.

2000 2009

“We wanted to position Singapore as a global city but also as an endearing home for us....The global city vision was not just about beautifying the city but also about discovering Singapore’s soul.”¹

Mah Bow Tan

Chapter Five

A Liveable and Sustainable City

Crowds enjoying the public spaces at Marina Barrage, with Marina Bay and the Singapore Flyer in the background, 2010.

A Turning Point for Singapore

At the turn of the 21st century, Singapore found itself at an economic crossroads. For decades, Singapore had leaned on being a stable and efficient environment for business. This had allowed it to successfully attract and grow foreign investment, particularly by large multinational companies, at a time before this strategy became the conventional wisdom. By the end of the 20th century, however, other countries had begun to compete on the same grounds. To sustain economic growth, Singapore would have to find new ways to differentiate itself in the world, even while maintaining its core strengths of stability and efficiency. Having embarked in the 1990s on an expansion of innovation and knowledge-based sectors

as well as internationalisation, Singapore would embrace globalisation, with its networked flows of goods, services, capital and labour and newly emerging market giants, as a new era dawned.

Singapore would have to undertake infrastructural, cultural and physical transformations. To power new economic activities, it would have to become a city capable of attracting the best talent from across the world, as well as nurture its own people. It was no longer enough to be a postcolonial rags-to-riches success story. Singapore would have to establish itself as “the most open and cosmopolitan city in Asia, and one of the best places to live and work in”, in the world.² The directions taken to realise this bold vision will continue to shape the city’s landscape, housing, infrastructure and society for decades to come.



Construction of Gardens by the Bay in progress in 2011. Opened in 2012, it is now a major destination for both Singaporeans and tourists, and is a spacious green lung in the heart of the city.

New Economic Priorities

Offices, industrial spaces and R&D facilities had to be developed for sectors such as biosciences, global banking and finance, wealth management, lifestyle industries, arts and culture, urban solutions, media and design, education and healthcare. Beyond infrastructure and strategic industry clustering, MND and its agencies also had to step up their efforts, begun in the preceding decades, to enhance liveability, expand cultural and lifestyle options and create a city that would inspire both wonder and a sense of home. Among the iconic projects birthed in this decade were the Esplanade—Theatres on the Bay, the integrated resorts of Marina Bay Sands and Resorts World Sentosa, and Gardens by the Bay.

A More Consultative Approach

A key aspect of building the 21st century Singapore was strengthening the inclusive character of its society. This extended to the urban planning process itself. While the Master Plans and Concept Plans of the past had primarily been drawn up by and discussed among professionals, academics and the government, the 2001 Concept Plan was shaped by greater public consultation and involvement. Singaporeans had become highly educated, informed citizens who wanted to be involved in the development of their urban home. Communicating the trade-offs, constraints and dilemmas inherent in planning enhanced public understanding, surfaced fresh ideas and reinforced the public’s buy-in and stake in the country’s growth. One prominent

example of better outcomes from consultation and co-creation was the preservation of the ecologically unique coastal wetland of Chek Jawa. Other programmes initiated in this decade, such as in public housing, would also involve resident views as part of the planning and design process.

From Garden City to City in a Garden

By the late 1990s, a new vision had been put forward—that of transforming Singapore into a City in a Garden co-created with the community. This was a paradigm shift in how Singaporeans lived and interacted with their natural environment and with each other. A key realisation was that the liveability of a city is intrinsically linked to its natural ecosystem. Thus in the first decade of the 21st century, a concerted effort was made to further conserve Singapore’s rich native biodiversity while integrating it into the daily lives of Singaporeans.

Volatile Markets

Amid monumental shifts and transformations, Singapore experienced a number of upheavals, including in housing. A series of recessions—brought on by crises such as the dot-com bust, the SARS epidemic and the Global Financial Crisis—followed by rapid recoveries created volatile, shortened property demand and supply cycles that were challenging for policymakers to respond to, given the long lead times needed in planning and development. Resolving the housing crunch would require redoubled efforts, fresh ideas and innovations that continued into the 2010s.

Box Story

Ministers
of this
Decade

Mah Bow Tan

June 1999–May 2011

Mah Bow Tan was the longest-serving Minister at MND. During his tenure, he stewarded a number of visionary projects, including the iconic Pinnacle@Duxton development, the continued development of Punggol as a waterfront town, and Gardens by the Bay. He personally made the case for the Gardens, convincing his Cabinet colleagues of its social value beyond purely commercial considerations.

On the housing front, Mah was instrumental in reshaping Singapore's residential hubs with the Remaking Our Heartlands programme. His tenure saw the introduction of key HDB programmes for improving homes and neighbourhoods, and for upgrading flats and lifts. Mah also introduced the Lease Buyback Scheme, which gave lower-income elderly households in smaller flats an option to monetise their housing equity to supplement their retirement income, while continuing to stay in the same flat. He led MND through a volatile period in the housing market in the 2000s, when supply and affordability were affected in short order by the Global Financial Crisis, recessions and economic recoveries.



“We take a long-term view and we have some buffer, but we cannot cater for extremes. In a situation where there are extremes, whether [housing supply] is up or down, there's bound to be uncertainty and unhappiness.”³

Mah Bow Tan

Housing a People

The Housing Crunch

At the beginning of the 2000s, the property market was still in recovery mode after the bubble of the late 1990s and the shock of the Asian Financial Crisis. Some 17,500 HDB flats in non-mature estates were available, as well as more than 19,000 private residences left unsold.⁴ Faced with the large number of flats available and a recession in 2001 caused by the global dot-com bust, HDB suspended its Registration for Flat queuing system. From Dec 2002, it moved to the BTO system in which the construction of new

projects would commence only when there was sufficient take-up. Beyond the basic availability of residences in early 2000s, policymakers had to be cautious not to cause a crash in housing prices due to oversupply.

More economic uncertainty followed in 2003 when the Asia-wide SARS outbreak damaged tourism and business activities, as well as the Global Financial Crisis of 2008-2009. However, the economic downturns and crises of the decade were quickly followed by V-shaped recoveries. As a result, housing demand fluctuated significantly in a short time.

This volatile situation was exacerbated by the growth of foreign worker and immigrant populations after the liberalisation of labour flows to transform Singapore's economy, and a housing shortage was keenly felt as the 2000s came to a close. Resurgent demand for housing outpaced supply and was challenging to address, as flats took about three years to complete and the traditional practice of maintaining a buffer supply of available flats could not keep up with these volatile changes in demand. Housing prices had risen faster than median income growth, and many were unsuccessful in their BTO applications.



(Left) Minister for National Development Mah Bow Tan at the Helix Bridge, when the bridge and Marina Bay Sands towers were under construction.

(Right) Residents enjoying the open communal space below HDB blocks at Choa Chu Kang Avenue 4, 2000.

Box Story

Chek Jawa Wetlands



One prominent outcome from public engagement efforts was the conservation of Chek Jawa—a coastal wetland on the eastern tip of Pulau Ubin that had been slated for reclamation since 1992 to provide land for military training. However, nature lovers, conservationists and civil society groups expressed concerns that the Chek Jawa Wetlands should be left in its natural state to protect its rich and unique ecological make-up. Following discussions among MND, NParks, nature groups and other civil society groups, it was decided that planned reclamation works for the Chek Jawa Wetlands would be deferred for as long as the area was not needed for development.

Today, Chek Jawa attracts nature lovers to its unique intertidal flats where six major ecosystems co-exist: sandy beach, rocky beach, seagrass lagoon, coral rubble, mangroves and coastal forest. Flora and fauna found there include sea anemones, nudibranchs, octopuses, seagrasses, oriental small clawed otters, wild boars, red junglefowl and oriental pied hornbills. A new plant species, *Utania nervosa*, was discovered at Chek Jawa in 1997. Visitor facilities developed since 2007 include a visitor centre with a viewing jetty, a 1 km boardwalk, and a viewing tower called the Jejawi Tower.

“If this is going to be our home....you don’t just destroy everything in the home for the sake of money. There are certain things that go beyond dollars and cents.”⁵

Mah Bow Tan



Low-income households also faced issues in getting rental housing as the waiting time rose to a peak of 21 months in 2008. To help lower-income families purchase flats, the government introduced the Additional CPF Housing Grant Scheme in 2006, which provided means-tested housing subsidies for new and resale flats. Public sector efforts to resolve the housing crunch and other infrastructural issues would seriously test the mettle of policymakers and last into the following decade.

Strengthening the Social Fabric

Even as MND and its agencies worked to calibrate housing demand and supply, they did not neglect the broader picture of public housing. This decade also saw further initiatives and policies to build community bonds, including the Remaking Our Heartland (ROH) programme to ensure that HDB estates remained vibrant and responsive to the needs of residents. Launched by Prime Minister Lee Hsien Loong in 2007, these were initiatives to rejuvenate housing estates in ways that took into consideration the particulars of each neighbourhood and the views of its residents, who were engaged as part of the planning process.

In acknowledgement of Singapore’s growing number of ageing residents, HDB introduced the Lease Buyback Scheme (LBS) and Silver Housing Bonus in 2009 and 2012 respectively to give seniors options to monetise their flats for retirement. Targeted at helping lower-income households own their homes, the Tenants’ Priority Scheme was introduced in 2006 to help families living in public rental flats gain priority to buy 2-room or 3-room flats from HDB. A new Fresh Start Housing Grant was introduced in 2016 with the same aim.

To enable young couples to be well-connected to established neighbourhood infrastructure and facilities while still living near their parents, more residential estates were planned to be built on vacant land parcels in existing towns. Following focus group recommendations during the development of 2001 Concept Plan, there was also a gradual shift towards more high-density homes (housing blocks with 30 storeys or more) so that enough space could be set aside for greening and environmental sustainability.

(Left) Chek Jawa Wetlands, 2007.

(Right) Residents mingling at Fernvale Link in Sengkang, 2003.

Building for Economic Growth

The Making of Marina Bay

As a city-state, Singapore must compete with the world's best cities for investments, opportunities, visitors and talent. By the 2000s, other cities, including in the developing world, were beginning to emerge as points of excellence. Efforts to remake Singapore's urban landscape, to keep Singapore ahead of the game in an increasingly competitive and connected global economy, as well as to support new growth sectors, were stepped up throughout the first decade of the 21st century.

For MND and its agencies, such efforts spanned the island, but can be encapsulated in the transformation of Marina Bay.

The development of Marina Bay had been long in the making. Land reclamation in the area had started in 1969. In the 1980s, convention centres, hotels and shopping malls had come up in Marina Centre. A plan for the Marina area was also drawn up by the renowned architect I.M. Pei. URA's 1992 Development Guide Plan combined the Shenton Way Central Business District, City Hall, Marina Centre and parts of the then-undeveloped Marina South into a new Downtown Core.

In the early 2000s, architectural consultants Skidmore, Owings and Merrill (SOM) were brought in to review and update the plan for Marina Bay. Their recommendations, including adjustments to the road grid for more flexibility in land parcels and linking bridges, were incorporated into the 2003 Master Plan. The grid urban pattern adopted also allowed for developments to be amalgamated, sub-divided or phased, according to market needs. URA introduced "white zoning" to encourage mixed-use developments and the formation of live-work-play communities in Marina Bay.

“We are a city-state: our competition is with the world...With that, you need to drive very innovative ideas for the development of the city. You cannot do more of the same.”⁶

Cheong Koon Hean

Office spaces in the district, including the Marina Bay Financial Centre, catered to a range of globalised industries and sectors. The district also featured major cultural and lifestyle attractions such as The Esplanade–Theatres on the Bay, Marina Bay Sands and the ArtScience Museum, the Marina Barrage and the iconic green space of Gardens by the Bay. Design guidelines for the district adopted a layered aesthetic for the city skyline, mandating clear views of the waterfront and urban spaces, with buildings gradually stepping up towards the tallest buildings.



(Left) The CBD with the Marina Bay Financial Centre (MBFC) under construction on the left, 2009.

(Top right) one-north research and business park was officially launched in 2001.

To grow Marina Bay in a holistic fashion and ensure that it lived up to Singapore's global city aspirations, URA set up the Marina Bay Development Agency, which went beyond the traditional urban planning and land sales management roles. The Agency showcased and promoted Marina Bay at conferences and real estate exhibitions worldwide, attracting a wide range of international developers and investors. A compelling case had to be made for the long-term sustainability and business potential of the district, as developers had taken a conservative stance during the SARS outbreak in 2003 and Global Financial Crisis of 2007–2008. URA also partnered with various other government agencies, community groups and businesses to enrich the cultural and social life of Marina Bay through place management and public events and activities, such as the Marina Bay Countdown for the New Year and the Marina Bay Urban Challenge.

Infrastructure to Support New Growth Activities

In the 2000s, urban planning supported the transformation of the economy, as Singapore began to establish new economic pillars in sectors such as biomedical sciences, global finance, media and telecommunications and other high value, innovation-driven industries.

Land was allocated for new business and industrial parks, including one-north, Jurong Island and Seletar Aerospace Park were developed; these were matched with new public and private residential estates and lifestyle infrastructure.

A Holistic Approach to Development

In the push to secure the nation's economic future, the principle of sustainable development remained a core value of urban planning. Fundamentally, economic growth and social well-being had to be achieved without taxing Singapore's environment and natural resources beyond recovery.

Singapore's approach incorporates long-term planning choices at the strategic level, the use of innovative policies and technologies and the considered balancing of diverse demands and priorities. The need for a holistic, comprehensive approach led to the formation in 2008 of the Inter-Ministerial Committee on Sustainable Development. This committee is co-chaired by the Ministers for National Development and Environment and Water Resources, combining developmental and environmental perspectives.

The decade also saw growing moves to optimise the use of available land, with innovative public infrastructure and pilots for the use of underground space.⁷



(Left) Gazetted in 2002 as a nature reserve, along with Sungei Buloh Wetlands Reserve, Labrador Nature Reserve contains the only rocky sea-cliff on the main island of Singapore that is accessible for recreation and scientific research. The reserve also has a promenade offering visitors sea views.

(Right) The 2002 Parks and Waterbodies Plan.



Creating a Liveable and Green City

Building Partnerships to Protect Biodiversity

The early 2000s were a significant time for the conservation of Singapore's natural heritage. Through consultations with the community including academia and nature groups, as well as with other public agencies, NParks developed and refined strategies for conserving the natural environment. These strategies listed out areas for protection based on their ecosystems and richness of biodiversity, leading to 19 terrestrial and four marine areas being specified in the 2002 Parks and Waterbodies Plan. It marked the integration of Singapore's nature conservation and urban planning and elevated the status of biodiversity-rich areas not gazetted as nature reserves.

Both the Sungei Buloh Wetland Reserve and Labrador Nature Reserve were gazetted in 2002, bringing the number of nature reserves from two to four. Commissioner of Parks Leong Chee Chiew noted that having the nature reserves gazetted and nature areas recognised was an important breakthrough that would not have happened without the support of URA and MND.⁹

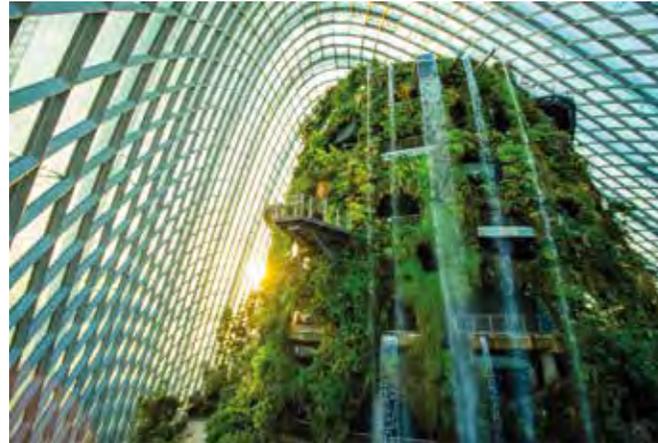
NParks has long recognised the need for community involvement and ownership to ensure the long-term survivability of Singapore's natural ecosystem. Over the past decade, NParks has partnered with non-governmental nature groups, researchers, corporations and other organisations, educational institutions and individuals to develop among the community a greater appreciation and stewardship of the island's greenery and native biodiversity.

“Greenery is something in which we’ve always taken a long-term view. People ask about the value of having parks and trees. You can only realise the value of these things many, many years down the road.”⁸

Mah Bow Tan

Box Story

Gardens by the Bay



The iconic Gardens by the Bay had its genesis during the tenure of Minister for National Development Mah Bow Tan. The Gardens, which include energy-efficient conservatories and plant life from a diverse range of global ecosystems, were a demonstration of Singapore's holistic approach to planning.

As Prime Minister Lee Hsien Loong noted during the Gardens' opening in 2012, the 101 ha (1.01 km²) site could have been used for more commercially valuable developments. Located in Marina Bay South, part of Singapore's 21st century downtown, and with waterfront views, a land sale at this location for private residential or commercial developments would have reaped substantial profits.

But the government and its planners saw beyond commercial considerations, recognising the social worth and long-term value of having a world-class garden in the heart of the city. PM Lee said: "(Mah) strongly supported this project. He saw value in having Gardens by the Bay right in the city, value beyond enhancing the price of the rest of the land in Marina Bay. Because we are building not just a commercial district....but a new city centre, a place all Singaporeans can be proud of, identify with and bring to mind when people talk about Singapore".



(Top left) Cloud Forest, in one of Gardens by the Bay's two conservatories, 2017.

(Bottom left) View of Gardens by the Bay.

(Top right) Launched in 2005, the Community in Bloom nationwide gardening movement now has more than 1,400 community gardens across Singapore.

Over 3,000 educational and outreach programmes have been developed to cater to a diverse range of interests in over 350 gardens, parks and nature reserves, with the goal of bringing more people closer to nature. A love of gardening is fostered through the Community in Bloom programme, and every cohort of Primary Three students in Singapore is provided with a plant starter kit so they can experience the joy of watching the plants grow and learning to care for them. Through the Community in Nature initiative, the public and schools assist NParks as Citizen Scientists to collect scientific data which would guide conservation strategies.

The formation of the Friends of Ubin Network (FUN) under the guidance of Second Minister for National Development Desmond Lee in 2014 set in place a new framework for the management of our green spaces. FUN comprises various stakeholders such as Ubin community leaders and residents, biodiversity experts, socio-anthropologists, heritage experts, schools and volunteers.

Through discussions on issues ranging from biodiversity and heritage conservation to education and research, FUN enabled various stakeholders to come together to maintain Pulau Ubin as a unique sanctuary for Singaporeans to enjoy. The success of FUN has led to the creation of the Friends of Parks initiative. From the Rail Corridor to the Park Connector Network to Trees.sg, the various Friends of Parks communities have led to greater public participation in the stewardship of Singapore's green spaces.

With the aim of helping other cities with their conservation efforts, NParks through its National Biodiversity Centre developed the City Biodiversity Index (CBI), also known as the Singapore Index on Cities' Biodiversity (SI). This is a self-assessment tool for cities to measure their biodiversity conservation efforts and assess how they can be improved. Launched by Minister for National Development Mah Bow Tan at the Conference of Parties to the Convention of Biological Diversity in 2008, it was endorsed in 2010 and has since been adopted by 25 cities.

A New Phase in Greening Singapore

By the first decade of the 21st century, Singapore was well on the way to becoming a City in a Garden, with nature fast becoming an integral part of daily life. In the second half of the decade, NParks began to articulate a holistic approach to integrating nature with the urban landscape, thereby creating a biophilic City in a Garden. Continuing a science-based approach towards managing Singapore's biodiversity, NParks sought to create an environment where people of all ages could be closer to nature and reap its benefits. Through careful design and curation of plant choices, NParks created therapeutic gardens to improve mental well-being. Biophilic playgardens, incorporating natural elements such as natural terrain and materials, allowed young children to appreciate nature through fun. Careful and enhanced planting up of the urban landscape has seen Singapore ranked as one of the cities with the highest density of greenery in the world.¹⁰

Box Story

The Pinnacle @Duxton



(Top) The Pinnacle@Duxton, pictured here in 2010. Completed in 2009, the 50-storey HDB development features the two longest sky gardens in the world, as well as a running track on the 26th floor.

(Bottom) Night view of the city skyline from The Pinnacle@Duxton's skybridge, 2011.

Completed in 2009, The Pinnacle@Duxton is an award-winning public housing project containing 1,848 flats in the heart of the historic Tanjong Pagar area, on the site of some of the earliest HDB rental flats. Designed by Singaporean architects, it features the world's two longest sky bridges with gardens on both its 26th and 50th floors. Its seven connected towers are collectively the world's tallest public residential buildings.

Beyond its eye-catching design and the international accolades it has received, the development embodies many of the urban principles close to Singapore's heart: liveability in a high-density environment, innovation in design and construction as well as the continuing evolution of public housing.

The Pinnacle stands on Duxton Plain in the Tanjong Pagar precinct, in the area where two HDB slab blocks built in the 1960s previously stood. After the area was redeveloped, Minister for National Development Mah Bow Tan persuaded Cabinet colleagues to maintain a commitment to public housing in the city instead of selling the site to a private developer.

As HDB's first 50-storey development, The Pinnacle integrates design innovations with the social and commercial infrastructure that has come to be expected of Singapore-style public housing. The use of an international design competition enabled HDB to choose the best from a range of designs, while also ensuring that it could stipulate cost-effectiveness and the incorporation of historic features on the site, as well as the extensive use of prefabrication technology—some 90% of the development was modularised and prefabricated off-site.

“We cannot fully anticipate all future possibilities. But what we can do, and should do, is to ensure that our plans are flexible enough to support changing needs.”¹¹

Peter Ho

Readying Singapore for the 21st Century

The 2000s saw Singapore taking measures to transform its landscape and economy for a highly connected new age, setting in place changes that would cement Singapore's position as a global city in the decades to come. The shifts spanned economic and industrial infrastructure and the skyline to the nation's cultural and lifestyle facilities,

(Bottom) The Marina Bay skyline formed the backdrop of the 2008 National Day Parade.



leading to major projects such as the integrated resorts and the Esplanade–Theatres on the Bay. Its long-cherished Garden City vision entered an ambitious new phase, with a new emphasis on conservation of natural heritage, the integration of green and blue spaces as part of the built and living environment, improving public access to nature, and involving the public in the movement to green Singapore.

To ensure that Singapore remains an inclusive, resilient society, planning and development evolved to preserve yet more of Singapore's unique heritage, and to engage more citizens in the design of their living environment. At the same time, amid volatile circumstances at the turn of the millennium, national development authorities faced the challenge of responding to an infrastructural crunch in the housing market and other sectors. Addressing these concerns called for concerted efforts and calibrated policy adjustments that would last into the next decade.

2010
2019

“Nation-building is a never-ending journey. It has to be sustained with effort, with discipline and with a constant adaptation to change. Every generation of Singaporeans can and must contribute to making Singapore a better, more liveable and more sustainable city.”¹

Lawrence Wong

Chapter Six

The Future-Ready City

A smooth-coated otter family feeding near Gardens by the Bay. The flourishing of otters and other wildlife are welcome signs of biodiversity on the island.

A Resilient Singapore, Meeting 21st Century Challenges

Cities today must grapple with an ever-growing range of challenges, from the impact of rapid technological shifts in a globalised, hyper-connected world and the existential threat of climate change, to the perennial concerns of social divisions, inequality, demographic transitions and urban sustainability. How cities respond to these pressures will have implications for the ways in which people live, work and play.

Keeping Singapore resilient in the face of these challenges demands whole-of-government, multi-sector responses and solutions. As the agency responsible for the physical aspects of the island city-state, MND will continue to play a key role in shaping how Singapore evolves: to adapt to changing local and international realities, and to grasp new opportunities and secure the nation's long-term future.

The Land Use Plan 2030, released in 2011, and the Master Plans released in the past decade, have articulated strategies to ensure that Singapore has sufficient land reserves and adaptive options set aside to meet the needs of present and future generations in a changing society and an uncertain world.

On the economic front, strategies for adaptive life-cycle planning for land use and rejuvenation have been put in place—the decision in 2016 to consolidate port operations in Tuas has freed up significant tracts of waterfront land in Tanjong Pagar and Pasir Panjang.² Other strategies include the co-location of uses and going underground to create space, as well as being nimble and innovative with zoning and other regulations.³

The Land Use Plan 2030 has also outlined plans to build a sustainable and liveable environment for a larger population, with inclusive housing, good amenities, integrated greenery and a vibrant economy. In this decade, MND's initiatives and policies have sought to enhance Singapore's liveability, even as the island's living density has had to increase to support economic growth in new centres of activity, as well as to support more sustainable energy and public transport systems. Even as Singapore has become denser, it has also redoubled its efforts to integrate high-quality green spaces and biodiversity within the urban environment. This decade has seen HDB implement its Biophilic Town Framework, while the role of ecosystem services within planning contexts and strategies has been given greater priority.⁴

As MND looks towards the 2019 Master Plan and beyond, the collective aspirations of Singaporeans—planners and citizens alike—have been core to the design of the city's future. In the tireless remaking of Singapore, these principles of dynamism, adaptability, inclusiveness and long-term thinking are what will enable the nation to be resilient, future-ready and a place in which to live, work and play for generations to come.



(Left) The Draft Master Plan 2019 was exhibited at URA Centre and across Singapore from March to August 2019, to gather feedback from the public.

(Top) New Build-To-Order HDB flats in Toa Payoh, one of Singapore's oldest housing estates. HDB continues to redevelop and rejuvenate towns across the island.

Housing a People

Supporting Home Ownership in the 21st Century

Today, 91% of resident households own their homes.⁵ This is the fruit of the government's long-standing policy to keep home ownership affordable and accessible for citizens. Home ownership provides a tangible stake in the nation's progress, while public housing is an avenue to uplift the majority of Singaporean families and a form of social security. Over the past two decades, Singapore's housing policies have focused on managing supply and demand, maintaining affordability, enhancing housing access for young families,

and facilitating different generations to live with or close to one another for mutual care and support. HDB has also worked to improve housing access for more buyer groups, such as singles and the elderly, as well as to provide assistance for public rental tenants to buy a flat.

From 2011, HDB ramped up flat supply in order to meet significant pent-up demand dating from the volatile market in the 2000s that had not yet been met. Constructing more flats and making them available to buyers more quickly were priorities under Khaw Boon Wan, Minister for National Development from 2011 to 2015, as well as for his successor Lawrence Wong. Increasing the supply of flats meant an adjustment to the Build-To-Order (BTO) scheme which previously saw the construction of new projects begin only when there was sufficient take-up. With the adjustment to the BTO scheme, HDB built ahead of demand in the knowledge that there would be a ready queue of buyers during the period of demand backlog. Over the past decade, the flat completion rate reached a high of nearly 35,000 flats in a single year, before tapering off once the demand backlog had been cleared.

“Trying to achieve perfect balance between supply and demand for housing is almost impossible.... What we can do is manage and minimise volatility.”⁵

Khaw Boon Wan

Box Story

Ministers
of this
Decade

(Top) Minister for National Development Khaw Boon Wan (right) and HDB CEO Cheong Koon Hean viewing Punggol New Town and Punggol Waterway from a newly completed BTO flat, 2014.

(Bottom) Minister for National Development Lawrence Wong meeting residents at a dialogue session, 2019.

**Khaw Boon Wan**

May 2011–September 2015

Ahead of a Cabinet reshuffle in 2011, then-Minister for Health Khaw Boon Wan made his case for the post of Minister for National Development. He entered MND with a determination to resolve issues related to public housing supply and affordability, caused by a volatile macroeconomic environment and dramatically shortened property cycles in the previous decade.

During his tenure, HDB ramped up BTO supply to meet demand, with about 77,000 flats launched from 2011-2013. To improve affordability, BTO flat prices were stabilised. The Additional Buyer's Stamp Duty was introduced to discourage property market speculation. Khaw's leadership at MND also saw the establishment of the Municipal Services Office.

Lawrence Wong

October 2015–present

As Minister for Culture, Community and Youth before becoming Minister for National Development, Lawrence Wong led Singapore's efforts to have the Singapore Botanic Gardens inscribed as a UNESCO World Heritage site. The Gardens received the UNESCO inscription in 2015, with Wong being appointed to the National Development post that same year.

Wong's time at MND has seen the introduction of measures to support the needs of homeowners. These include the expansion of the Lease Buyback Scheme (LBS) to cover all HDB flats, and the enhancement of housing grants to help Singaporeans own their homes. In 2018, he led MND in making significant moves on public housing for the longer term. This included introducing a second round of upgrading, the Home Improvement Programme II (HIP II), and the Voluntary Early Redevelopment Scheme (VERS) to space out the redevelopment of older HDB towns. In the 2010s, MND also sought innovative ways to expand Singapore's space skyward, underground and seaward, while emphasising sustainable development, land optimisation and co-location of uses. As chair of the steering committee for the Jurong Lake District, he oversaw the development of the Jurong Lake Gardens, the new national gardens in the heartlands.

“This Roadmap will set out the key priorities for HDB's professional focus over the next 5 to 10 years. This enables HDB to deliver a better living environment and meet the evolving lifestyle aspirations of our residents. Partnership with private sector expertise and the community will play a big part in this approach.”

Cheong Koon Hean



Aerial view of Punggol New Town and Punggol Waterway, 2019. Punggol New Town was developed as Singapore's first Eco-Town, a 'living laboratory' for HDB to test new sustainable technologies.

Roadmap to Better Living in HDB Towns

In 2011, HDB formulated a Roadmap to Better Living in HDB Towns, which aims to create Well-designed Towns, Sustainable and Smart Towns, and Community-centric Towns. HDB has since piloted and implemented a new generation of public housing, introducing many sustainable development initiatives, and is now scaling up smart technologies and biophilic design in HDB towns.

As a master planner and developer, HDB adopts a comprehensive approach in developing well-designed towns, not just housing alone. Town planning has evolved in tandem with changing socio-economic and demographic conditions, guided by planning principles such as planning for self-sufficiency and connectivity, the neighbourhood concept, HDB's well-established 'checkerboard' concept and the hierarchy of facilities.

To ensure that towns are sustainable and smart, HDB conducts active research in a range of domain-related areas such as social, economic and environmental sustainability. In 2011, a comprehensive Sustainability Framework for Punggol Eco-Town was developed to provide a clean, safe, healthy and comfortable living environment for residents. HDB is also adopting innovations in information technology, the "Internet of Things" and Big Data to develop smarter towns. Various upgrading programmes were also implemented through the years to upgrade our existing towns. In addition, a comprehensive blueprint "Remaking Our Heartland" was launched in 2007 to renew and redevelop HDB towns and estates.

With over 80% of Singapore's resident population living in HDB flats, public housing plays a crucial role in promoting social harmony. HDB provides a living environment where people of different races and socio-economic groups have opportunities to mingle and bond as a community. Community-building is achieved through the provision of areas such as common greens, playgrounds and precinct pavilions. HDB works with grassroots organisations to activate and improve the vibrancy of the spaces (e.g. town plazas) through systematic "place-making" programmes. HDB also helps build "heartware" by organising community-building programmes that promote neighbourliness, expand residents' social network and provide opportunities for community participation.

Inclusive Neighbourhoods

Sustaining diverse neighbourhoods that embrace Singaporeans from all walks of life

has always been key to Singapore's efforts to build a harmonious multicultural nation. Policies such as setting ethnic limits in blocks and estates under the Ethnic Integration Policy (EIP), mixing different flat types within estates, and integrating sold and rental flats in the same block, have helped reduce inequality and strengthen social cohesion over the past decades, and remain vital in the 21st century.

Singapore's strategy has been to build shared, inclusive neighbourhoods, by having a deliberate mix of residents, encouraging meaningful and regular interactions between them by design, and enlarging the common spaces accessible to all. Rather than wait until enclaves form and problems of segregation emerge, such purposeful interventions at the planning, design and policy stages have helped Singapore to mitigate problems of social division that trouble cities elsewhere.⁸

Through their work to plan and develop the built environment, MND and its agencies have been at the forefront of fostering more social interaction and community bonding between Singaporeans of all backgrounds.

Parks, common spaces and facilities remain key priorities in developing today's housing estates. In the 2010s, HDB began providing spaces in every new housing precinct for community gardens, as well as recreating "living rooms" at common areas of every HDB block where residents often meet. At the level of estate design, HDB has mixed different flat types within estates, with rental blocks interspersed among home ownership blocks. All residents have access to and share common facilities and amenities to encourage interaction and a sense of community between residents. In 2014, HDB launched a public housing block integrated with sold and rental flats in Woodlands. Another two such integrated blocks were launched in Bukit Batok and Sengkang in 2016 and 2017 respectively. This facilitates social-mixing among Singaporeans of different socio-economic groups and reduces the stigma of lower-income residents living in public rental flats, which in the past made up entire blocks.



Designing and building the urban environment for people of all abilities and ages, and renewing neighbourhoods through improvement programmes, are also key to an inclusive Singapore. The Building and Construction Authority (BCA) continues to update and strengthen its Code on Accessibility to ensure that buildings and other facilities can be easily accessed and used by people of all abilities. It also works with public and private stakeholders to implement Universal Design principles across developments through the BCA Universal Design Mark.

Preparing the built environment to cater to the needs of an ageing population has also been a key consideration in the 2010s. This has led to recent innovations such as Kampung Admiralty, a residential development integrating public housing, healthcare and social services. For elderly HDB residents elsewhere, the government has also subsidised the installation of

(Top left) Nursing home residents interacting with children at the inter-generational playground located at St Joseph's Home.

(Bottom left) Minister of State for National Development Zaqq Mohamad at the Good Neighbour Award Ceremony 2019.

(Right) The Building and Construction Authority (BCA) works with public and private stakeholders to implement Universal Design features in developments to cater to people of various needs and abilities.



senior-friendly interior fittings such as grab bars and slip-resistant treatments through the Enhancement for Active Seniors (EASE) programme. In 2018, MND began working with the Ministry of Health to pilot an assisted living project in public housing to meet both the housing and care needs of seniors.

Improving Service Delivery with the Municipal Services Office

On 1 October 2014, a new Municipal Services Office (MSO) was set up in MND to improve the coordination and delivery of municipal services. Such services focused on the upkeep and improvement of the shared living environment, including managing the cleanliness of public areas, greenery maintenance, and maintaining and repairing public infrastructure. During his announcement of the formation of MSO, Prime Minister Lee Hsien Loong had noted that the office would serve residents in a more seamless way, especially when responsibilities were split between different agencies.⁹

MSO has worked with partner agencies such as then-Agri-Food & Veterinary Authority (AVA), BCA, HDB, the Land Transport Authority (LTA), the National Environment Agency (NEA), NParks, the Peoples' Association (PA), PUB, the Singapore Land Authority (SLA), the Singapore Police Force (SPF) and URA

to fine-tune processes to address public feedback on municipal issues, so that cases can be resolved quickly and effectively. To simplify the municipal feedback reporting process for the public, in January 2015 MSO launched the OneService mobile app to automatically route feedback to relevant agencies for more timely service.¹⁰

Over the past five years, MSO's efforts have helped agencies improve collaboration and feedback management, to provide more citizen-centric services. With an integrated feedback system and greater clarity of roles and responsibilities, the average time to close complex cross-agency cases was reduced from 8.5 days in 2015 to 6.5 days in 2018.¹¹

Safeguarding Consumers' Interests in Property Transactions

A key part of the home ownership journey is the process of buying or selling a property. It is a critical decision and major life milestone for many Singaporeans, and one that is often mediated through the services of a property agent. It is therefore important that the agents engaged to facilitate property transactions conduct their work ethically and professionally, in the best interests of their clients.

In the past, a light-touch approach was taken in regulating the real estate agency industry, requiring only that the agencies be licensed. Property agents did not need to be registered, nor did they have to obtain industry qualifications before practising. There were also no legal provisions allowing clients to take action against errant agents. On 22 October 2010, the Council for Estate Agencies (CEA) was formed as a new statutory board under MND, to regulate and professionalise the industry, and to safeguard consumer interests.

Since its establishment, CEA has laid foundations for raising the standards of property agencies and their agents through regulatory and professional development measures. It also educates consumers to better appreciate their role in ensuring smooth property transactions with their agents.

“Each district will have a unique role in contributing to Singapore’s growth in the future economy and be defined by a distinctive identity and environment.”¹²

Lim Eng Hwee

Building for Economic Growth

New Growth Centres

Building on the foundations of the decentralisation plans first laid out in the 1991 Concept Plan, MND and URA have continued in this decade to fan out new growth centres across the island. Beyond the benefits of bringing jobs closer to homes and reducing congestion in the downtown area, growth centres such as the Punggol Digital District and the Jurong Lake District tap into the positive ecosystem effects of clustering related industries, as well as close connections with academia and research institutions.

Envisioned as a regional gateway and a hub for Southeast Asian business, Jurong Lake District will draw on its connections to the upcoming Tuas Terminal, where Singapore’s port activities will be consolidated. The district also has potential as an innovation hub, with its proximity and links to knowledge and economic centres including Nanyang Technological University and CleanTech Park.

On Singapore’s northeast coast, the Punggol Digital District is growing into a focal point for digital industries, including new activities related to cybersecurity and the Internet of Things.

The district integrates a business park, community facilities and the Singapore Institute of Technology university located within Punggol Smart Town. The aim is to reap the benefits of cross-sector collaborations and fertilisation. Accordingly, homes in Punggol, beginning with Northshore District, are at the frontline of Singapore’s Smart Nation initiatives. A smart HDB town would ultimately bring benefits to the citizens as it improves efficiency, sustainability, safety and liveability.

Other planned gateways that tap into the economies of the future include the northern gateway, with the Northern Agri-Tech and Food Corridor serving as its anchor, and the eastern gateway at Changi to bring aviation businesses together. The eastern gateway also pairs the Singapore University of Technology and Design, Changi Business Park and the upcoming Changi East urban district in a lifestyle-business cluster.

Land Optimisation, Co-location and Underground Use

The 2010s saw a number of large-scale redevelopment projects launched, with an eye towards optimising land use and meeting new needs. In 2013, the government began the monumental process of moving port activities from the Tanjong Pagar, Keppel, Pasir Panjang and Pulau Brani areas to a consolidated port in Tuas. The move will free up prime land for redevelopment. Overall, the Greater Southern Waterfront will offer about 2,000 ha (20 km²) of land for new commercial developments, housing opportunities, and lifestyle, recreational and entertainment facilities.

View of Jurong Lake District, 2019.



Efficient residents watching television in their new HDB flat, 1974.

Box Story

Kampung Admiralty

Completed in 2017, Kampung Admiralty combined the community-centric virtues of the past with 21st century solutions for a pioneering living environment. This ‘vertical kampung’ integrates housing for seniors with community-wide facilities including a medical centre, a hawker centre, a childcare centre, an active ageing hub, and a community plaza and garden to support active ageing lifestyles and strengthen community and family bonds.

Then-Minister for National Development Khaw Boon Wan was a leading advocate for the project, as he was keen to “create a modern kampung where there is strong communal bonding, strong kampung spirit, but with access to modern facilities”. This multi-agency project saw HDB partner with MOH, Yishun Health Campus, NEA, NParks, LTA and the Early Childhood Development Agency.

Community activities and programmes include mass exercises, festival celebrations and inter-generational activities. Residents also bond with each another through many activities such as cooking for seniors who are under dementia care, and volunteering at the active ageing hub.

Kampung Admiralty was named the World Building of the Year at the 2018 World Architecture Festival, receiving the award ahead of 535 other shortlisted buildings.



(Top) Artist's impression of the future Jurong Lake District.

(Right) Artist's impression of tree-lined sidewalks and cycling paths in the future Jurong Lake District.

(Left) Kampung Admiralty, 2018.

Another large-scale project is Paya Lebar Airbase. The relocation of the airbase to Tengah and Changi will remove height restrictions around the current site and its surroundings, allowing for taller developments in future.

The 2019 Draft Master Plan also marked the first time that Singapore's underground space plans for Marina Bay, Punggol Digital District and Jurong Innovation District were unveiled. The potential underground location of essential infrastructure—such as utility and rail lines, roads and transport facilities, as well as storage and industrial facilities—should free up more surface land for people-centric uses in future.

New Modes of Planning and Developing

In the process of developing new growth centres, new modes of planning and developing are being tested. The Punggol



Digital District was Singapore's first Enterprise District, with JTC appointed as its Master Developer in 2018. Unlike other areas in Singapore where planning controls such as land use and Gross Plot Ratio guidelines are applied to individual land parcels, the Master Developer can plan and apply these guidelines at the district level. This enables the optimisation of land use and facilities while allowing for greater synergy downstream.



In Punggol Digital District, some university research laboratories, enterprise incubators and learning facilities are located within the business park for private enterprises to conduct R&D in collaboration with the Singapore Institute of Technology. In turn, the university hosts industry research and development workspaces, allowing students to have closer interactions with real-life working environments.

The Master Developer approach also allows for pedestrian connectivity and public spaces to be planned and developed at a comprehensive level from the start, rather than through piecemeal development of individual plots of land. This approach also facilitates the implementation of district cooling, facilities management, urban logistics and other systems that support the long-term sustainability of the district.¹³

A key strategy in the 2019 Draft Master Plan is to introduce a broader mix of uses within the CBD and in other developments around the island. To increase the vibrancy of the CBD beyond being solely a place to work, URA will be introducing incentives for property owners who convert their existing office developments to hotel and residential use. Established precincts across the island are also being rejuvenated through efforts by URA to implement place management and to foster closer cooperation with businesses and other stakeholders. In 2018, URA piloted the Business Improvement District (BID) programme in the precincts of City Hall, Jurong Gateway, Kampong Glam, Marina Bay, Marina Centre, Paya Lebar, Raffles Place and Tanjong Pagar. Through the BID programme, the government provided dollar-for-dollar matching of place management funds collected by

Wayang Kulit shadow puppetry performances drawing crowds at the Aliwal Arts Night Crawl, 2017.

stakeholders.¹⁴ A new Strategic Development Incentive Scheme will encourage private developers and building owners to rejuvenate their buildings across the island by collaborating to redevelop adjacent properties, in exchange for higher gross plot ratios and flexibility on development controls.

Building Sustainably

Evolving the methods of building and maintaining Singapore's urban environment is a key concern for policymakers in the 21st century. These transformations have been particularly relevant in the last two decades, given the imperatives of reducing the resource impacts of new and old developments, as well as the over-reliance on labour-intensive construction and the foreign workforce.

From 2017, MND and its agencies began engaging and partnering the private sector, unions and learning institutions to lay out Industry Transformation Maps (ITMs) for industries such as construction, real estate, security, environmental services and landscaping—sectors regarded as growth areas. As there is scope within each of these sectors for improved productivity and innovation, the ITMs guide the sustainable development of each industry by helping businesses to level up capabilities and find more opportunities to grow and, in the process, create good jobs for Singaporeans.

The ITM for the construction industry in particular focuses on three key areas: Design for Manufacturing and Assembly (DfMA), Green Buildings and Integrated Digital Delivery (IDD). The ITM will help improve productivity and competitiveness in the construction sector, reducing the use of imported labour and facilitating more efficient construction processes. It will also promote design for green buildings and drive the adoption of sustainable practices in operations and maintenance.

The DfMA approach would demand a ready supply of prefabricated building components or modules, which are then assembled onsite. In 2012, the first Integrated Construction and Prefabrication Hub opened in Tuas to meet this anticipated need.¹⁵ To encourage

the adoption of DfMA, the government has steadily increased the number of tenders stipulating the use of prefabrication technologies.¹⁶ Agencies have also launched schemes such as BCA's BuildSG Transformation fund to support industry transformation and build capabilities, as well as changed procurement frameworks to emphasise both quality and price.¹⁷

Catalysing Transformation in the Real Estate Industry

Launched in 2018, the ITM for the real estate industry focuses on two areas—property transaction services and facilities management. These sub-sectors were identified as having potential for transformation.¹⁸

The initiatives for property transaction services aim to help property agencies and agents embrace technology to raise productivity and professionalism, and to enhance service delivery. For facilities management (FM), the focus is on increasing the adoption of smart solutions and practices island-wide, which will improve productivity. This will drive the research and development of FM solutions, and nurture innovative enterprises.

From AVA to SFA and AVS

In April 2000, PPD was restructured into a statutory board and renamed the Agri-Food & Veterinary Authority (AVA). AVA played a key role in ensuring a resilient supply of safe food, safeguarding animal and plant health, and facilitating agri-trade.

In response to questions over uncertainties in food supply and sharply rising prices, AVA and MND worked hard to find new sources for Singapore's food supply. Strategies to ensure Singapore's food security and resilience were laid out in the 2013 Food Security Roadmap, which included the core strategies of source diversification, investing in food production overseas, the sustainable development of the domestic food industry, and stockpiling. Supporting strategies included R&D, reducing food waste, and maintaining the affordability and accessibility of food in Singapore.

Box Story

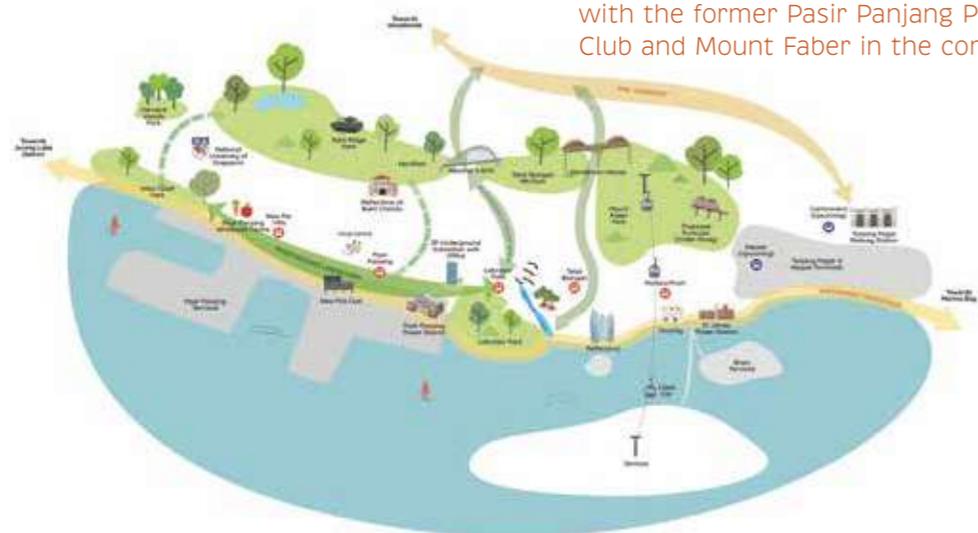
The Greater Southern Waterfront

In 2012, the government approved a plan to move all port operations to Tuas, to take advantage of its deepwater harbour, proximity to shipping routes and operational efficiencies from a consolidated port. When PSA's city terminals at Tanjong Pagar, Keppel and Pulau Brani move to the new mega port at Tuas, some 30 km of coastline from Marina East to Pasir Panjang will be freed up, with 2,000 ha (20 km²) of land for potential development—twice the size of Punggol New Town. Yet more land would become available when the Pasir Panjang Terminal relocates in 2040.

Based on recommendations from the 2010 Economic Strategies Committee, the 2011 Concept Plan put forward plans to turn this stretch of land into a bold new centrepiece in Singapore's development as an attractive place in which to live, work and play—the Greater Southern Waterfront.

Plans for the Greater Southern Waterfront were first mentioned in Prime Minister Lee Hsien Loong's 2013 National Day Rally. He went on to announce more details in his 2019 National Day Rally speech, noting: "Our city today comprises multiple layers and the imprints of different eras. The Greater Southern Waterfront will add yet more layers to the city....A new generation will have another opportunity to imagine and to build here some part of their vision for Singapore."

The area will include about 9,000 public and private housing units on land that currently houses the Keppel Club and its golf course, a new office district with nightlife and numerous leisure, recreation and entertainment possibilities, as well as green and blue spaces. Development will occur in phases, starting with the former Pasir Panjang Power District, Keppel Club and Mount Faber in the coming 5 to 10 years.



(Left) A continuous waterfront promenade, extending from Pasir Panjang to Marina East, will link various destinations at the Greater Southern Waterfront in future.

(Top) Senior Parliamentary Secretary for National Development Sun Xueling (centre, in red shirt) at the National Parks Board's inaugural Pets' Day Out on 17 August 2019.

In the 21st century, examples of these strategies in practice included the introduction of chilled pork from Australia, enabled by cold chain technology, as well as the diversification of food sources to encompass producers from an international range with diverse climatic conditions. Companies tapped the Agriculture Productivity Fund to increase local production of eggs, vegetables and fish. Local food producers were also encouraged with funding to adopt space-saving technologies and production methods, and to lean on R&D and innovate towards an agricultural transformation. Citizen farming, vertical and rooftop farms, and community gardens have grown in popularity.

In April 2019, the AVA's food and non-food related animal, plant and wildlife management functions were split between the newly established Singapore Food Agency (SFA) and NParks.

The SFA comes under the Ministry of Environment and Water Resources.

As the lead agency overseeing Singapore's food safety and food security, SFA ensures and secures a supply of safe food for Singapore by working hand-in-hand with the industry and consumers to grow its three "food baskets" through diversifying import sources, growing local, growing overseas, as well as by ensuring food safety from farm to fork.¹⁹

NParks took over AVA's former animal-related functions under its new cluster—the Animal and Veterinary Service (AVS). Apart from being the main touchpoint for animal and veterinary matters in Singapore, AVS is also the First Responder for all animal-related feedback. The safeguarding of the health and welfare of animals continues to rank high in its core work so that Singapore remains free from animal diseases of economic and public health importance.²⁰ AVA's previous wildlife and plant management roles were also integrated into NParks. This allows NParks to take more comprehensive measures to manage wildlife issues in Singapore.



“After over 50 years of greening, Singapore is today not just a Garden City, but a biophilic City in a Garden—a green oasis comprising an interconnected network of verdant streetscapes, gardens, parks, nature reserves and vertical greenery.”²¹

Kenneth Er

Creating a Liveable and Green City

Growing the Biophilic City in a Garden

Protecting natural areas and nurturing biodiversity are essential to ensure the resilience of Singapore to climate change and other impacts, as well as to strengthen the country’s green identity. With high-quality green spaces and biodiversity protection growing into strategic advantages in planning and development over the last two decades, the 2010s saw further moves in this direction, including HDB’s development and implementation of a Biophilic Town Framework to guide the planning and design of residential developments in optimising urban ecosystem services for greater environmental health and human well-being.

Under the Biophilic Town Framework, HDB seeks to create a nature-centric neighbourhood in a holistic manner, so that residents can better connect with nature and enjoy its intrinsic benefits.

The redeveloped Bishan-Ang Mo Kio Park, 2017. Under the Active, Beautiful, Clean (ABC) Waters programme, the canal running through the park was naturalised into a meandering river.

The framework outlines the strategies needed to plan and design urban landscapes, to achieve the larger urban development goals of sustainability, liveability and resilience. It encapsulates a comprehensive set of considerations in five key elements of the environment landscape, together with their corresponding urban ecosystem services (i.e. benefits to humankind supplied by the natural ecosystems). The five key elements are soil, flora and fauna, outdoor comfort, water and people.²²

The framework was first applied in the Punggol Northshore District in 2015, where eight BTO projects comprising about 5,700 flats will be completed progressively from 2020. Since then, the framework has been refined and validated through a three-and-a-half year research collaboration with the National University of Singapore (NUS), URA and NParks. The framework is now ready for implementation in new HDB projects. With Biophilic Design progressively incorporated into the neighbourhood landscapes, newly launched housing projects will become even greener and more liveable.



URA also introduced the Landscaping for Urban Spaces and High-Rises (LUSH) programme, a comprehensive urban and skyline greening strategy which leverages development as an opportunity to inject more greenery and communal spaces into buildings. Under LUSH, over 160 ha (1.6 km²) of green spaces have been added within Singapore's built environment.

In 2009, NParks introduced the Skyrise Greenery Incentive Scheme, which co-funds the installation costs for rooftop and vertical greenery. Today, there are over 100 ha (1 km²) of skyrise greenery in Singapore, making the nation one of the world leaders in this area.²³

In the 2010s, land has continued to be safeguarded for nature reserves and other green spaces. Ecological resilience will be

enhanced by having a network of nature parks around existing nature reserves in Bukit Timah, the Central Catchment Area and Sungei Buloh to serve as protective buffers for native flora and fauna. Together with other green spaces such as parks and park connectors, the current 7,800 ha (78 km²) will grow by another 1,000 ha (10 km²). In addition, the NParks Forest Restoration Action Plan will see efforts to strengthen forest resilience by restoring ecological processes and enhancing the biodiversity and ecological connectivity in these areas.

The Park Connector Network (PCN) continues to grow, with the commencement of planning for the continuous, 150 km Round Island Route and the Coast to Coast Trail stretching from Jurong Lake Gardens in the west to Coney Island in the northeast.

(Top) HDB flats in Telok Blangah with a view of the lush forests and greenery around the Southern Ridges, a 10 km trail linking Mount Faber to Kent Ridge, 2017.

(Top right) Second Minister for National Development Desmond Lee at the launch of the Turtle Hatchery at Sisters' Islands Marine Park, 2018.

(Bottom right) The Learning Forest in the new Tyersall-Gallop Core of the Singapore Botanic Gardens, a UNESCO World Heritage Site. The new forest integrates with the existing rainforest, enlarging the overall habitat.



In the vicinity of the Central Catchment and Bukit Timah Nature Reserves is the 48 km Nature Park Network (NPN), comprising trails in nature parks such as Dairy Farm Nature Park, Hindhede Nature Park and Windsor Nature Park, covering nearly 400 ha (4 km²) of nature parks. The NPN provides access to nature areas while easing the pressure on the nature reserves. These trails bring people closer to nature and provide connectivity for biodiversity.

The decade also saw Singapore develop its first protected marine area with the establishment of the Sisters' Islands Marine Park in 2015. In the same year, the Singapore Botanic Gardens became the country's first UNESCO World Heritage Site, in recognition of its history as a prominent centre for plant research in Southeast Asia since the 19th century, and for being the best-preserved example of a British tropical colonial botanic garden. Since then, the Singapore Botanic Gardens has expanded in size from 74 ha (0.74 km²) to 82 ha (0.82 km²). One new key feature is the Learning Forest, which is a restoration of the wetland and tropical lowland rainforest habitats that once existed there. This allows researchers and the public alike to observe and study the biodiversity found in such ecosystems in situ at a more easily accessible site, and to develop appropriate conservation strategies for Singapore and similar environs in the region.

The opening of the first phase of Jurong Lake Gardens in 2019 was the culmination of years of public consultation. The third national gardens after the Singapore Botanic Gardens and Gardens by the Bay, and the first in the heartlands, Jurong Lake Gardens' design incorporates not only suggestions from the public, but also biophilic concepts such as restoring the original wetlands and turning them into floodplains, and using animals as inspiration for the play features in the playgarden. Through its landscaped features and programming, the Gardens aims to showcase horticultural artistry and expertise. As a green recreational node, it contributes to the larger plans for the Jurong Lake District by promoting sustainability and a healthy living environment.

NParks is working to create a nationwide green network that encompasses Nature Ways, the PCN and other green linkages. Nature Ways are roadside greenery planted with specially selected trees and shrubs to replicate the layered natural structure of forests. Nature Ways help birds and insects move among green spaces, function as their habitats, and integrate nature in urban areas.²⁴

Further opportunities for residents to connect with these green spaces will be provided by extending Singapore's park connectors and recreational corridors to over 400 km over the next 15 years.

Co-creating the Urban Environment

The planning and building of Singapore have traditionally been the domain of experts, and the Singapore of today is testament to their efforts and capabilities. Maintaining the excellence of that expertise remains vital, even as the processes by which MND and its agencies plan and build have evolved to include the input of the public, who are the end-users of streets, buildings, parks and other facilities. Over the years, the government has recognised the value of co-creation in nurturing a more inclusive Singapore. In recent years, MND and its agencies have expanded their initiatives and avenues to partner with the community, interest groups and businesses in shaping how the urban environment develops.

For instance, the redevelopment of Dakota Crescent, a housing estate built by the colonial-era SIT in the 1950s, engaged both public opinion and social memory. The new estate will include six retained SIT buildings and the well-loved dove playground, all put into adaptive reuse for civic and community uses as part of new public housing concepts for Singaporeans.

In deciding the future of the Rail Corridor, the 24 km former railway line that runs from Woodlands in the north to Tanjong Pagar in the south, URA took community engagement in the planning process to a new level. From the earliest stages of formulating the Rail Corridor Master Plan, the authority made co-creation central to their approach. They sought out, involved and listened to a diverse range of voices from the community. Through platforms that included visioning and design workshops, community walks and an ideas competition, a shared vision of planning and design goals was developed in consultation with individuals, experts and groups such as the Nature Society of Singapore, the Singapore Heritage Society and Friends of the Green Corridor.



(Left) Under the Neighbourhood Renewal Programme (NRP) at Tampines North, nearly 4,000 residents and stakeholders gave their ideas and inputs over a period of three months in 2017 for the planning and design of their living environment.

(Right) Walkers enjoying a stroll along The Rail Corridor, 2017. The former railway line is now a green corridor stretching 24 km from Tanjong Pagar to Woodlands. Plans are underway to transform it into a trans-island green community space.



These consultations shaped the design brief for the conceptualisation of the Corridor's Master Plan in 2015, with the community making clear its values and aspirations for the Corridor. These included design goals such as a Green Corridor identity, the protection and nurturing of biodiversity and ecology as well as community ownership and stewardship.²⁵

In 2017, Second Minister for National Development Desmond Lee launched the Friends of the Rail Corridor (FRC), a group to cultivate active community stewardship

of the Rail Corridor as a shared community space. Open to members of the public, FRC includes nature, heritage and recreational groups as well as academics, students and residents who live near the Rail Corridor.²⁶ Since its formation, students and residents of the FRC community have helped to enhance streams and rewild the Rail Corridor.

By going beyond collecting public feedback and moving towards community participation in planning, the Rail Corridor exercise offers a promising model for urban planning and development in the future.



Knowledge Networks and Research

Since the 2000s, MND has explored avenues to harness and share the valuable lessons and urban knowledge from Singapore's successful development story. In 2008, MND and the Ministry of Environment and Water Resources jointly established the Centre for Liveable Cities (CLC) to distil, create and share knowledge on liveable and sustainable cities through research, events and publications. CLC also undertakes capability development, advisory programmes and projects with international partners. Together with URA, CLC organises the biennial World Cities Summit (WCS), which features the Lee Kuan Yew World City Prize and the WCS Mayors' Forum.

In 2017, the Cities of Tomorrow (CoT) programme was launched to spur R&D and technology deployment in urban fields, including advanced construction, resilient infrastructure, new spaces and greater sustainability. These verticals are supported by the enabling horizontals of environment analytics and complexity science for urban solutions, while CoT is funded through the urban solutions domain of the Research, Innovation and Enterprise 2020 programme, and is housed within MND.

(Top) The 6th edition of the World Cities Summit (WCS) was held in Singapore from 8–12 July 2018. This included the 9th WCS Mayors Forum, which was attended by 124 mayors and city leaders from 119 cities. The Forum explored how liveable cities could learn and adopt new technologies, and find new funding to finance infrastructure projects.

(Right) Minister for National Development Lawrence Wong spending time with young residents at the official opening of Oasis Terraces neighbourhood centre in Punggol New Town, 2019.

“The critical factor that determines a society’s ability to keep moving forward is all of us. All of us as individuals, as part of the MND Family and certainly, as part of Team Singapore, have a part to play to keep Singapore going.”²⁷

Lawrence Wong

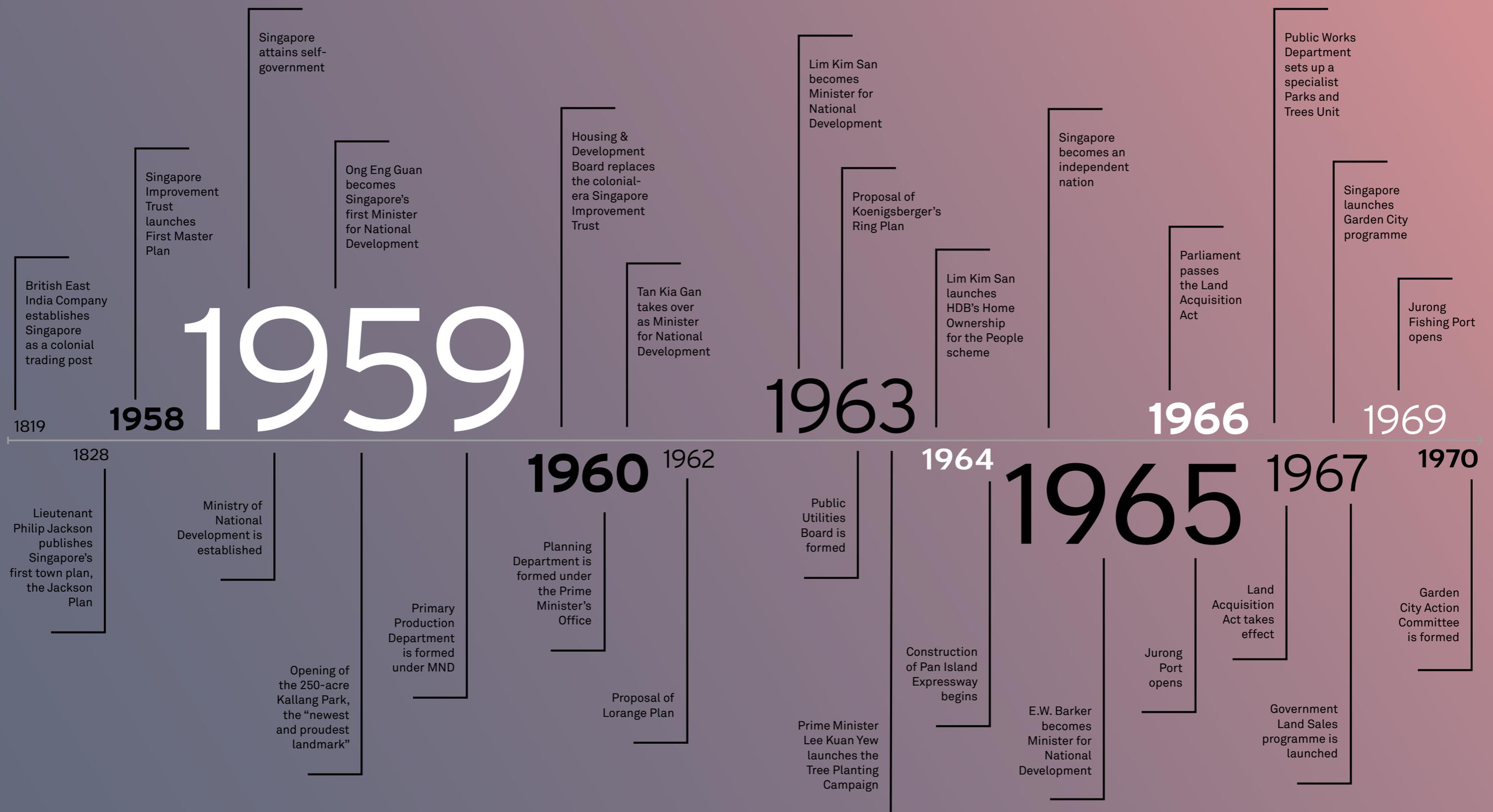
Looking to the Future

In the 2010s, MND and its agencies built on the global city drive and stepped up efforts to stay responsive to the needs and aspirations of the people. It ramped up public housing construction to resolve the supply shortage of the previous decade, developed safeguards in preparation for climate change and disruptive technologies, and made provisions to ensure that Singapore remains an inclusive and accessible city for all ages and backgrounds.

New modes of planning and development have been tried out, as the national development agencies explore ways to partner with the private sector to bring about innovative industrial and commercial developments, and to inject fresh vibrancy into the city. New growth centres, including Woodlands Regional Centre and the North Coast Innovation Corridor, are being prepared for the 2020s. The move of port activities to Tuas has opened up opportunities for thoughtful, impactful redevelopment, which will be enriched by public consultation and involvement.

In these potentially transformative ventures that will scaffold the next stage in the city's evolution, Singaporean values remain at the forefront: a commitment to building our way forward together, adapting and protecting our natural environment and green character, and rising to our national challenges with verve, vision and vitality.





1971

Singapore launches first Concept Plan

Preservation of Monuments Board is formed

HDB establishes a resale market for its flats

Singapore National Stadium opens

Housing and Urban Development Company is established

Pasir Panjang Wharves opens

Lim Kim San returns as Minister for National Development

Area Licensing Scheme is introduced

1976

Half of Singapore's population now live in HDB flats

Teh Cheang Wan becomes Minister for National Development

Ang Mo Kio New Town is completed

Construction of Pan Island Expressway is completed

Changi Airport begins operations

Singapore Petrochemical Complex on Jurong Island begins operations

1973

1979

1981

1984

1972

1974

1975

1978

1980

1982

1985

National Tree Planting Day is introduced

Professional Engineers Board is established

Tanjong Pagar container terminal opens

Urban Redevelopment Authority is formed

Parks and Trees Unit merges with the Singapore Botanic Gardens to become the Parks and Recreation Department under MND

Construction of Changi Airport begins

First Residents' Committee is formed

Permanent Secretary Howe Yoon Chong sets up the Central Area Planning Team

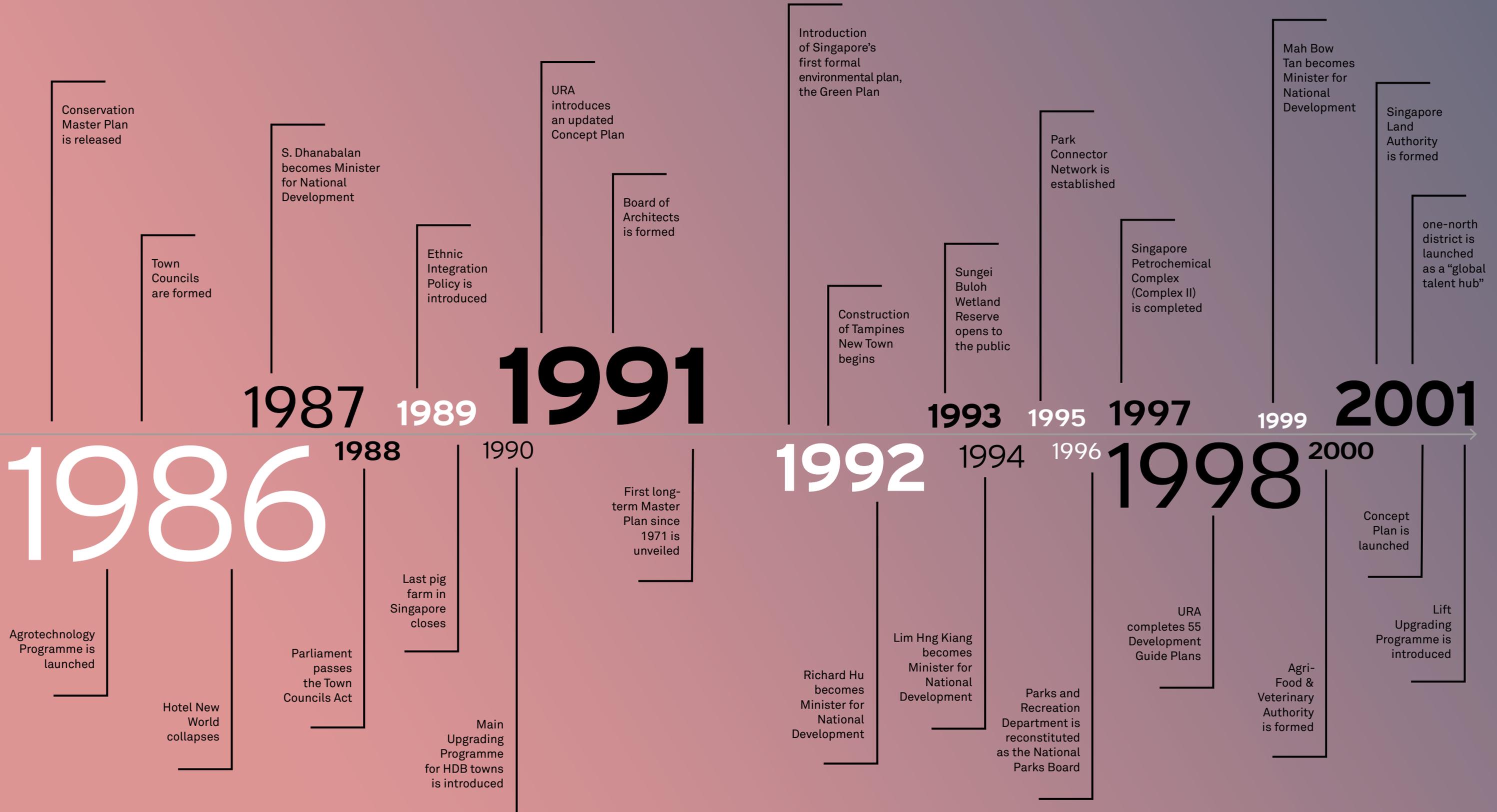
HDB begins offering 5-room and executive flats

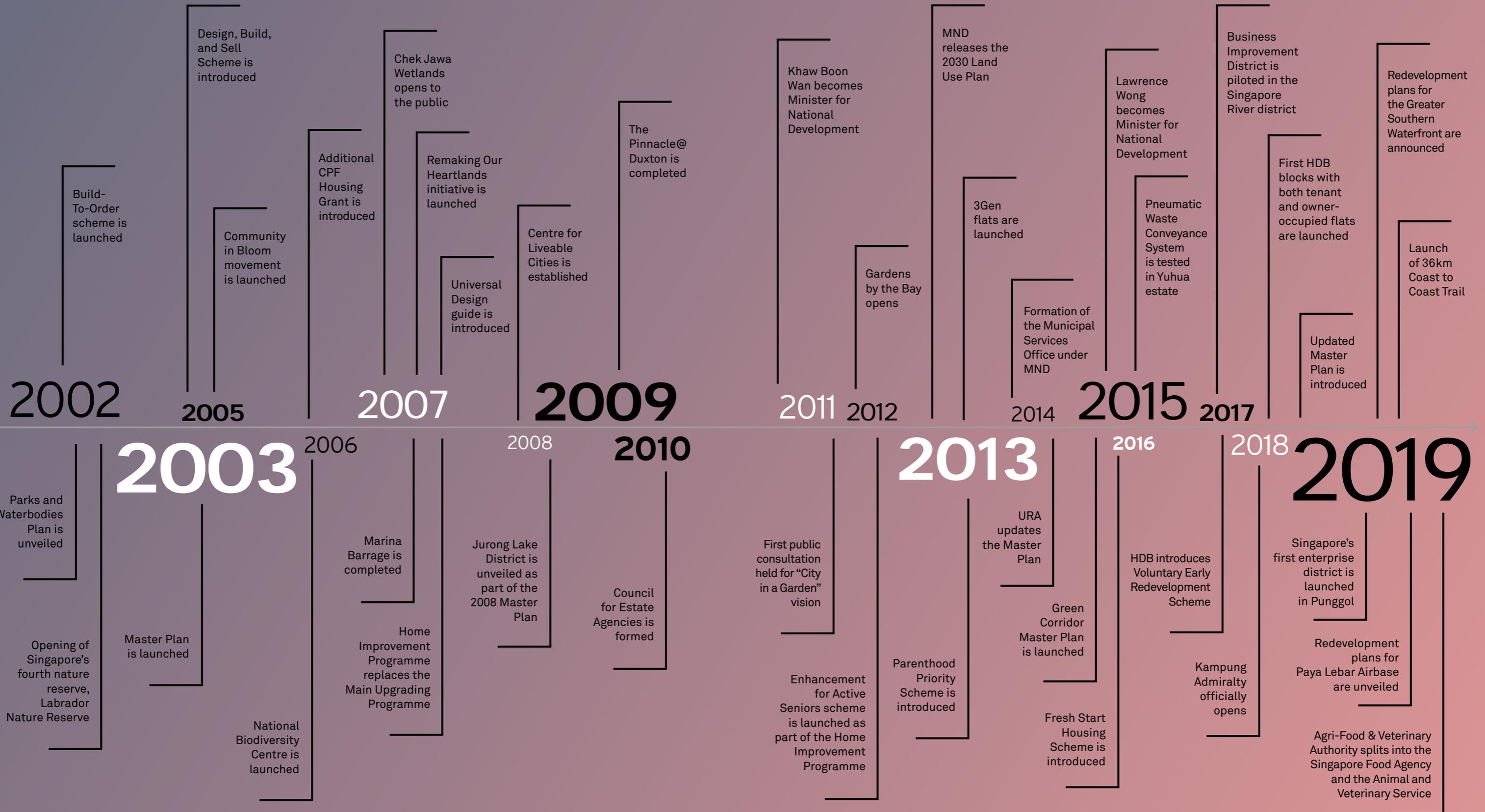
URA introduces development charges

East Coast Parkway is completed

Singapore government decides to build a Mass Rapid Transit System

Central Area Structure Plan is released





Key Appointment Holders

MINISTERS

Ong Eng Guan	Jun 1959 — Jun 1960
Tan Kia Gan	Aug 1960 — Oct 1963
Lim Kim San	Oct 1963 — Aug 1965
E.W. Barker	Aug 1965 — Jun 1975
Lim Kim San	Jun 1975 — Jan 1979
Teh Cheang Wan	Feb 1979 — Dec 1986
Yeo Ning Hong <i>2nd Minister</i>	Jan 1985 — May 1985
S. Dhanabalan	Jan 1987 — Aug 1992
Richard Hu Tsu Tau	Sep 1992 — Jan 1994
Lim Hng Kiang <i>Acting Minister</i>	Jan 1994 — Apr 1995
Lim Hng Kiang	Apr 1995 — Jun 1999
Mah Bow Tan	Jun 1999 — May 2011
Lim Swee Say <i>2nd Minister</i>	Aug 2004 — Sep 2005
Khaw Boon Wan	May 2011 — Sep 2015
Lawrence Wong	Oct 2015 — present
Desmond Lee <i>2nd Minister</i>	May 2017 — present

SENIOR MINISTERS OF STATE

Tan Eng Liang	Jun 1975 — May 1978
S. Dhanabalan	Jun 1978 — Feb 1979
Lee Boon Yang	Aug 1988 — Nov 1990
Grace Fu	Apr 2008 — May 2011
Tan Chuan-Jin	Aug 2012 — Aug 2013
Lee Yi Shyan	Aug 2012 — Sep 2015
Desmond Lee	Oct 2015 — Apr 2017

MINISTERS OF STATE

Lee Yock Suan	Sep 1981 — Oct 1983
Lee Boon Yang	Jan 1987 — Sep 1988
Peter Sung	Nov 1988 — Sep 1991
Lim Hng Kiang	Sep 1991 — Jan 1994
John Chen Seow Phun	Jun 1999 — Dec 2001
Vivian Balakrishnan	Jan 2002 — Aug 2004
Cedric Foo Chee Keng	Aug 2004 — Apr 2005
Heng Chee How	May 2005 — May 2006
Grace Fu	Aug 2006 — Mar 2008
Lee Yi Shyan	May 2011 — Jul 2012
Tan Chuan-Jin	May 2011 — Jul 2012
Mohamad Maliki Bin Osman	Sep 2013 — Sep 2015
Desmond Lee	Sep 2013 — Sep 2015
Zaqy Mohamad	May 2018 — present

SENIOR PARLIAMENTARY SECRETARIES

Lee Yiok Seng	May 1981 — Dec 1993
Matthias Yao	Jan 1994 — Jan 1997
Koo Tsai Kee	Jun 1999 — Aug 2001
Mohamad Maliki Bin Osman	Nov 2010 — Aug 2013
Sun Xueling	May 2018 — present

PARLIAMENTARY SECRETARIES

Ya'acob Bin Mohamed	Jun 1959 — Sep 1961
Chor Yeok Eng	Sep 1961 — Oct 1963
Ho Cheng Choon	Oct 1963 — Mar 1979
Lee Yiok Seng	Mar 1979 — Apr 1981
Koo Tsai Kee	Jan 1997 — Jun 1999
Mohamad Maliki Bin Osman	Oct 2005 — Oct 2010

PERMANENT SECRETARIES

Teo Kah Leong <i>Acting PS</i>	Jun 1959 — Jun 1961
Howe Yoon Chong <i>Acting PS</i>	Jun 1961 — Jan 1962
Khoo Seang Hoe <i>Acting PS</i>	Jan 1962 — Oct 1962
Sim Kee Boon <i>Acting PS</i>	Oct 1962 — Nov 1963
Howe Choon Yong	Nov 1963 — Dec 1969
Tan Chok Kian <i>Acting PS</i>	Jan 1970 — Sep 1971
Cheng Tong Fatt	Sep 1971 — Feb 1979
James Koh Cher Siang	Feb 1979 — Jan 1987
James Koh Cher Siang <i>2nd PS</i>	Feb 1987 — Jul 1987
Ngiam Tong Dow	Feb 1987 — Oct 1989
J. Y. Pillay	Nov 1989 — Mar 1995
Lam Chuan Leong	Mar 1995 — Mar 2001
Koh Yong Guan	Apr 2001 — Oct 2001
Peter Chan Jer Hing	Oct 2001 — Apr 2004
Tan Tee How <i>2nd PS</i>	Jan 2004 — Apr 2004
Tan Tee How	Apr 2004 — Oct 2011
Benny Lim	Nov 2011 — Apr 2016
Chew Hock Yong <i>2nd PS</i>	Oct 2014 — Apr 2016
Ow Foong Pheng	May 2016 — present

Notes

Introduction

¹ Ministry of Culture, “Speech by the Prime Minister, Mr Lee Kuan Yew, at the Sree Narayana Mission in Sembawang”, 12 September 1965, National Archives of Singapore, accession number lky19650912a.

² *Master Plan: Report of Survey* (Singapore: Government Printing Office, 1955).

³ Housing & Development Board, *Report of The Housing Committee* (Singapore: Government Printing Office, 1948), 11.

⁴ “Singapore Sanitation Commission”, *The Straits Times*, 16 June 1906, 5.

⁵ Quah Siew Tien Jon, “Administrative reform and development administration in *Singapore: A comparative study of the Singapore Improvement Trust and the Housing and Development Board*” (Florida: Florida State University, 1975).

⁶ E.P. Richards, *The Condition, Improvement and Town Planning of the City of Calcutta and Contiguous Areas: The Richards Report* (New York: Routledge, 2015), 73.

⁷ Straits Settlements, *Ordinances enacted by the Governor of the Straits Settlements with the advice and consent of the Legislative Council thereof in the year 1927* (Singapore: Straits Settlements, 1927), 1.

⁸ HDB, *Report*, 16.

⁹ Centre for Liveable Cities and Civil Service College, *Liveable & Sustainable Cities: A Framework* (Singapore: Centre for Liveable Cities and Civil Service College, 2014), 53.

¹⁰ Ministry of Culture, “Speech by the Prime Minister Mr Lee Kuan Yew, in moving the second reading of the land acquisition (amendment no. 2) bill 1964 in the Legislative Assembly”, 10 June 1964, National Archives of Singapore, accession number lky19640610a.

¹¹ Alan Choe, “Interview by CLC”, Centre for Liveable Cities, Ministry of National Development, 27 February 2012, unpublished transcript, accession number CLC/004/2012/010.

¹² Parliament of Singapore, “Urban Redevelopment Authority Bill”, Singapore Parliamentary Reports Vol. 1, Col. 446, 4 August 1989.

¹³ Ministry of Information and The Arts, “Speech by Mah Bow Tan, Minister for National Development, at the Launch of the Public Consultation Phase of the Concept Plan 2001”, 26 August 2000, National Archives of Singapore, accession number 2000082601.

¹⁴ Khaw Boon Wan, “Interview by CLC”, Centre for Liveable Cities, Ministry of National Development, 23 August 2019, unpublished transcript, accession number CLC/055/2019/003.

¹⁵ Ministry of National Development, “Speech by Minister Lawrence Wong at the Draft Master Plan 2019 Exhibition Launch”, 27 March 2019, <https://www.mnd.gov.sg/newsroom/speeches/view/speech-by-minister-lawrence-wong-at-the-draft-master-plan-2019-exhibition-launch>

Chapter One

¹ Warren Fernandez, *Our Homes: 50 Years of Housing a Nation* (Singapore: Straits Times Press for Housing & Development Board, 2011), 53.

² “2.45 am-PAP Romps Home with Landslide Victory”, *The Straits Times*, 31 May 1959, 1.

³ Municipal Council, “Administrative History”, http://www.nas.gov.sg/archivesonline/government_records/agency-details/63

⁴ “Lee’s Cabinet: This is it”, *The Straits Times*, 6 June 1959, 1.

⁵ “Portfolios of Seven Ministers”, *The Straits Times*, 12 June 1959, 16.

⁶ Singapore Legislative Assembly Debates, “Yang Di-Pertuan Negara’s Speech”, Vol. 11, Col. 50, 1 July 1959.

⁷ “A flat every 45 minutes”, *The Straits Times*, 31 August 1964, 10.

⁸ Centre for Liveable Cities, *Urban Redevelopment: From Urban Squallor to Global City* (Singapore: Centre for Liveable Cities, 2016), 9.

⁹ Housing & Development Board, *Annual Report 1960* (Singapore: Housing & Development Board, 1963), 7.

¹⁰ Ministry of Culture, “Speech by Mr. Lim Kim San, Acting Minister for Health at the Poster Design Competition in Public Cleansing at Conference Hall, Trade Union House”, 9 November 1967, National Archives of Singapore, accession number PressR19671108.

¹¹ Housing & Development Board, *Annual Report 1965* (Singapore: Housing & Development Board, 1966), 12.

¹² Peggy Teo and Shirlena Huang, “A sense of place in public housing: A case study of Pasir Ris, Singapore”, *Habitat International* 20, no. 2: 307-25

¹³ Lee Kuan Yew, *From Third World to First: The Singapore Story 1965–2000: Memoirs of Lee Kuan Yew* (Singapore: Times Media Private Limited and The Straits Times Press, 2000), 116.

¹⁴ “Housing solved—next step a new face for city”, *The Straits Times*, 9 April 1963, 4.

¹⁵ Housing & Development Board, *Annual Report 1964* (Singapore: Housing & Development Board, 1964), 9.

¹⁶ Housing & Development Board, *Annual Report 1964*, 10.

¹⁷ Housing & Development Board, *Annual Report 1969* (Singapore: Housing & Development Board, 1969), 77; Centre for Liveable Cities, *Housing: Turning Squatters into Stakeholders* (Singapore: Centre for Liveable Cities, 2013), 9; Chew Hui Min, “Singapore Budget 2015: Median wages increased six times since 1965”, *The Straits Times*, 23 February 2015.

¹⁸ Department of Statistics, *Population Trends 2018* (Singapore: Department of Statistics, 2018); PopulationPyramid.net, “Population Pyramid for Singapore in 1959”, <https://www.populationpyramid.net/singapore/1959/>

¹⁹ Alan Choe, “The Civil Service: A Retrospection”, interview by Soh Eng Khim, 12 June 1997, National Archives of Singapore, accession number 001891/09.

²⁰ Centre for Liveable Cities, *Working with Markets: Harnessing Market Forces and Private Sector for Development* (Singapore: Centre for Liveable Cities, 2017).

²¹ Urban Redevelopment Authority, *Annual Report 1974–1975* (Singapore: Urban Redevelopment Authority, 1975).

²² Alan Choe, “I Unleashed a Building Boom”, in *Living the Singapore Story: Celebrating Our 50 Years 1965–2015* (Singapore: Straits Times Press, 2015), 65.

²³ Agri-Food & Veterinary Authority, “Singapore’s Food Farms: A Story of ‘Then and Now’” in *AVA Vision 4* (Singapore: Agri-Food & Veterinary Authority, 2015), 6.

²⁴ Bill Campbell, “Singapore’s Fishing Trade Becomes an Industry”, *The Straits Times*, 21 February 1969, 10.

²⁵ Primary Production Department, *Annual Report 1970* (Singapore: Primary Production Department, 1970), 13; Ngiam Tong Tau, “Interview by CLC”, Centre for Liveable Cities, Ministry of National Development, 11 June 2015, unpublished transcript, accession number CLC/028/2015/002.

²⁶ Classes for farmers on rearing livestock”, *The Straits Times*, 15 October 1960, 4; “Govt. starts classes for Singapore fishermen”, *The Straits Times*, 21 January 1961, 5.

²⁷ “PWD speed-up”, *The Straits Times*, 27 December 1963, 4.

²⁸ “Work to begin soon on new S’pore dam”, *The Straits Times*, 13 December 1965, 11; “Plans for reservoir No. 4 under study”, *The Straits Times*, 30 December 1969, 5.

²⁹ T.H. Tan, “Sewerage, Sewerage Treatment and Disposal in Singapore”, PWD workshop paper II/2 presented at the Regional Workshop on Water Resources, Environment and National Development, Singapore, 1972.

³⁰ R.T. Corlett, “The Ecological Transformation of Singapore, 1819–1990”, *Journal of Biogeography* 19 (1992): 412.

³¹ Ministry of Information and the Arts, “Speech by Mr Lee Kuan Yew, Senior Minister at the Launch of the National Orchid Garden”, 20 October 1995, National Archives of Singapore, accession number lky19951020.

³² “S’pore to become beautiful, clean city within three years”, *The Straits Times*, 12 May 1967, 4.

³³ National Parks Board, “Mission and History”, <https://www.nparks.gov.sg/about-us/mission-and-history>

³⁴ Lee Kuan Yew, “Launch of the National Orchid Garden”, accession number lky19951020.

³⁵ “\$294 mil. earmarked for Singapore D-plans”, *The Straits Times*, 3 November 1964, 11.

³⁶ “Where most of the money will go”, *The Straits Times*, 10 March 1970, 7.

³⁷ William Campbell, “Building the Singapore of 1988... NOW”, *The Straits Times*, 22 March 1968, 10.

³⁸ Francis Rozario “A takeover of 15,000 acres”, *The Straits Times*, 23 February 1968, 6.

³⁹ Centre for Liveable Cities, *Urban Redevelopment*, 15.

Chapter Two

¹ Ministry of Culture, “Speech by the Minister for National Development and Communications, Mr Lim Kim San at the 10th National Day Dinner of the Ulu Pandan Constituency”, 19 December 1976, National Archives of Singapore, accession number 19750803_0002.

² “British forces land goes to Govt”, *The Straits Times*, 26 July 1973, 5.

³ “Providing a Home for Everybody”, *The Straits Times*, 9 August 1972, 23.

⁴ Urban Redevelopment Authority, *Chronicle of Sale Sites* (Singapore: Urban Redevelopment Authority, 1983), 15.

⁵ O.J. Dale, *Urban Planning in Singapore—Transformation of a City* (New York: Oxford University Press, 1999), 232.

⁶ Planning Department, *1970 Annual Report* (Singapore: Planning Department), 20.

⁷ Alan Choe, “The Civil Service: A Retrospection”, interview by Soh Eng Khim, 12 June 1997, National Archives of Singapore, accession number 001891/09.

⁸ Khoo Teng Chye, “IREUS Lecture on Building a Liveable City: Urban Planning and Real Estate”, 17 April 2019, Centre for Liveable Cities, unpublished transcript.

⁹ Parliament of Singapore, “Urban Redevelopment Authority Bill”, Singapore Parliamentary Reports Vol. 32, Col. 1204, 26 July 1973.

¹⁰ Ministry of Culture, “Speech by the Minister for Law and National Development at Balloting Ceremony for Sale of Toa Payoh Flats”, 1 October 1966, National Archives of Singapore, accession number PressR19661001d.

¹¹ “Providing a Home for Everybody”, *The Straits Times*, 9 August 1972, 23.

¹² Centre for Liveable Cities, *Housing: Turning Squatters into Stakeholders* (Singapore: Centre for Liveable Cities, 2013), 18.

¹³ Housing & Development Board, *Annual Report 1970* (Singapore: Housing Development Board, 1970), 20.

¹⁴ “Bigger HDB Flats and New Designs”, *The Straits Times*, 24 February 1975, 1.

¹⁵ Housing & Development Board, *Annual Report 1979* (Singapore: Housing Development Board, 1979).

¹⁶ “Growing Pains 1970–1979”, in *The Evolution of Real Estate in Singapore*, ed. Tan Tiong Cheng et. al. (Singapore: Knight Frank, 2015), 58.

¹⁷ Urban Redevelopment Authority, *Annual Report 1974–1975* (Singapore: Urban Redevelopment Authority, 1975), 7.

¹⁸ Urban Redevelopment Authority, *Annual Report 1980–1981* (Singapore: Urban Redevelopment Authority, 1981).

¹⁹ Centre for Liveable Cities, *Working with Markets: Harnessing Market Forces and Private Sector Development* (Singapore: Centre for Liveable Cities, 2017).

²⁰ Centre for Liveable Cities, Singapore Economic Development Board and JTC Corporation, *Industrial Infrastructure: Growing in Tandem with the Economy* (Singapore: Cengage Learning Asia, 2013), 12.

²¹ *Jurong journeys* (Singapore: Oracle Works for PAP Jurong Branch, 1996), 30–34.; Urban Redevelopment Authority, *Jurong East planning area: Planning report 1995* (Singapore: Urban Redevelopment Authority, 1995), 16.

²² Crooks Michell Peacock Stewart, *United Nations Urban Renewal and Development Project, Part Two: Surveys and Analyses* (Sydney: Crooks Michell Peacock Stewart Printing and Graphics Division, 1971).

²³ “Planning for the 90s to Avoid Traffic Problems”, *The Straits Times*, 4 June 1970, 4.

²⁴ “Expressways Pass Halfway Mark”, *The Straits Times*, 23 October 1986, 12.

²⁵ “CLC Lecture Series: In Conversation with Transport Pioneers, Doing What’s Right, Not What’s Popular”, Centre for Liveable Cities, 6 April 2011, transcript.

²⁶ Ilsa Sharp, *The Journey—Singapore’s Land Transport Story* (Singapore: Land Transport Authority, 2005).

²⁷ Land Transport Authority Academy, “Integrated Land Use and Transport Planning”, unpublished manuscript, 13.

²⁸ Tisa Ng, *Ong Teng Cheong: Planner, Politician, President* (Singapore: Editions Didier Millet, 2005), 52.

²⁹ Parliament of Singapore, “Professional Engineer Bill”, Singapore Parliamentary Reports, Vol. 29, 22 December 1969.

³⁰ “PWD Director Heads Engineers Board”, *The Straits Times*, 9 May 1971, 6.

³¹ Professional Engineers Board Singapore, *Annual Report 2018* (Singapore: Professional Engineers Board, 2018).

³² “URA’s Task: Facing the ‘Sleeping City’ Phenomenon”, *The Straits Times*, 27 June 1977, 13.

³³ Urban Redevelopment Authority, *Annual Report 1980–1981* (Singapore: Urban Redevelopment Authority, 1981).

³⁴ Urban Redevelopment Authority, “Planning for A Better City: A Challenge for URA”, *Skyline* 11 (July/August 1984); Urban Redevelopment Authority, *Annual Report 1974–1975* (Singapore: Urban Redevelopment Authority, 1981).

Chapter Three

¹ Ministry of Communications and Information, “Speech by Mr S Dhanabalan, Minister for National Development, at the Opening of the Second International Convention on Urban Planning, Housing and Design”, 27 July 1989, National Archives of Singapore, accession number SD19890727.

² “New Era, New Partnership 1980–1989”, in *The Evolution of Real Estate in Singapore*, ed. Tan Tiong Cheng et. al. (Singapore: Knight Frank, 2015).

³ Augustine H.H. Tan and Phang Sock-Yong, *The Singapore experience in public housing* (Singapore: Times Academic Press for the Centre for Advanced Studies National University of Singapore, 1992).

⁴ Centre for Liveable Cities, *Urban Redevelopment: From Urban Squalor to Global City* (Singapore: Centre for Liveable Cities, 2016), 77.

⁵ “Growing Pains 1970–1979”, in *The Evolution of Real Estate in Singapore*, ed. Tan Tiong Cheng et. al. (Singapore: Knight Frank, 2015), 64.

⁶ Khoo Teng Chye, “IREUS Lecture on Building a Liveable City: Urban Planning and Real Estate”, 17 April 2019, Centre for Liveable Cities, unpublished transcript.

⁷ Parliament of Singapore, Singapore Parliamentary Debates, Vol. 47, Col. 189, 26 February 1986.

⁸ Philip Lee, “Graft Probe Led to Teh’s Suicide”, *The Straits Times*, 21 January 1987, 1.

⁹ Khoo, “IREUS Lecture”; Centre for Liveable Cities, *Urban Redevelopment*, 79.

¹⁰ Auditor-General’s Office, *Report of the Auditor-General for The Financial Year 1995/1996* (Singapore: Auditor-General’s Office, 1996), 23.

¹¹ Centre for Liveable Cities, *Land Framework of Singapore: Building a Sound Land Administration and Management System* (Singapore, Centre for Liveable Cities, 2018).

¹² Mathew Yap, “National Development Ministry Reorganises”, *The Straits Times*, 8 January 1988, 12.

¹³ Parliament of Singapore, “Urban Redevelopment Authority Bill”, Singapore Parliamentary Debates, Vol. 54, Col. 445, 4 August 1989.

¹⁴ CLC, *Urban Redevelopment*, 46–7.; “Revamped URA Begins Role Today as National Planning body”, *The Straits Times*, 1 September 1989, 48.

¹⁵ “URA Bill”, 4 August 1989.

¹⁶ S. Dhanabalan, “Interview by CLC”, Centre for Liveable Cities, Ministry of National Development, 29 July 2019, unpublished transcript, accession number CLC/055/2019/001.

¹⁷ Robbie B.H. Goh, “Ideologies of ‘Upgrading’ in Singapore Public Housing: Post-modern Style, Globalisation and Class Construction in the Built Environment”, *Urban Studies* 38, no. 9 (2001): 1589–1604.

¹⁸ “Housing—The Challenges Ahead”, *The Straits Times*, 6 August 1987, 11.

¹⁹ “Housing Board to Transform its Estates”, *The Straits Times*, 12 July 1989, 1.

²⁰ National Archives of Singapore, “Housing a Nation”, 2009, http://www.nas.gov.sg/1stCab/7585/travel_exh_Sec6.html.

²¹ Peggy Teo and Shirlena Huang, “A sense of place in public housing: A case study of Pasir Ris, Singapore”, *Habitat International* 20, no. 2: 307–25.

²² Steven Lim and Yan Mei Ling, “HDB’s Showpiece Estates Have That New-Wave Look”, *The Straits Times*, 13 July 1989, 17.

²³ National Archives of Singapore, “Housing a Nation”, 2009, http://www.nas.gov.sg/1stCab/7585/travel_exh_Sec6.html.

²⁴ Ministry of Community Development, *National RC Seminar: Residents’ Committees in the 1990s, 22 July 1990, SLF Auditorium* (Singapore: Ministry of Community Development, 1990), 16.

²⁵ Warren Fernandez, *Our Homes: 50 Years of Housing a Nation* (Singapore: Straits Times Press, 2010), 117.

²⁶ Attorney-General’s Chambers, “Town Councils (Amendment) Act 2017”, Singapore Statutes Online, 1 July 2000, <https://sso.agc.gov.sg/Act/TCA1988>

²⁷ Agnes Wee, “Racial Enclaves Forming—Dhana”, *The Straits Times*, 7 January 1989, 1.

²⁸ “Resale of HDB Flats Blamed for Return of Racial Enclaves”, *The Straits Times*, 7 January 1989, 17.

²⁹ “Where Regrouping Has Occurred”, *The Straits Times*, 17 February 1989, 14.

³⁰ “Practical Reasons May Be Behind Racial Enclaves”, *The Straits Times*, 17 January 1989, 13.

³¹ “HDB to Ensure Healthy Ethnic Mix in Estates”, *The Straits Times*, 13 January 1989, 1.

³² Parliament of Singapore, “Better Racial Mix in HDB Housing Estates”, Singapore Parliamentary Debates, Vol. 52, Col. 650, 655, 16 Feb 1989; Agnes Wee, “Racial Limits Set for HDB Estates”, *The Straits Times*, 17 February 1989, 1.

³³ Centre for Liveable Cities, *Food and The City: Overcoming Challenges for Food Security* (Singapore: Centre for Liveable Cities, 2018), 27.

³⁴ Parliament of Singapore, “Punggol Pig Farmers (Dispossession)”, Singapore Parliamentary Reports, Oral Answers to Questions, Vol. 43, Col. 777, 12 March 1984.

³⁵ Ministry of Trade and Industry, *The Singapore Economy: New Directions, Report of the Economic Committee* (Singapore: Ministry of Trade & Industry, 1986).

³⁶ Ngiam Tong Tau, “Sustaining Singapore’s Farming Heritage”, CLC Lecture, Centre for Liveable Cities, 25 May 2016.

³⁷ Centre for Liveable Cities, *Built by Singapore: From Slums to a Sustainable Built Environment* (Singapore: Centre for Liveable Cities, 2015), 25.

³⁸ “Bill Proposes Fine if Buildings Are Not Given Safety Checks”, *The Straits Times*, 6 March 1988, 14.

³⁹ Koh-Lim Wen Gin, “Interview by CLC”, Centre for Liveable Cities, Ministry of National Development, 4 February 2015, unpublished transcript, accession number CLC/001/2012/003.

⁴⁰ S. Dhanabalan, “Interview by CLC”, Centre for Liveable Cities, Ministry of National Development, 29 July 2019, unpublished transcript, accession number CLC/055/2019/001.

⁴¹ Centre for Liveable Cities, *Past, Present and Future: Conserving the Nation’s Built Heritage* (Singapore: Centre for Liveable Cities, 2019), 31.

⁴² “Dhana Unveils Blueprint for a Developed City”, *The Straits Times*, 14 September 1989, 1.

⁴³ Vivian Balakrishnan and Tham Tuck Cheong, *Land allocation: final report, 22 December 2000* (Singapore: Ministry of National Development, 2000).

⁴⁴ “Government to Take the Lead in Moving Out of CBD”, *The Straits Times*, 14 September 1989, 22.

⁴⁵ Caroline Chan, “\$180m URA Project to Create New Downtown for the 21st Century”, *The Straits Times*, 1 October 1989, 1.

Chapter Four

¹ Ministry of Information and the Arts, “Speech by Mr Lim Hng Kiang, Minister for National Development at the Official Opening of URA Gallery”, 27 January 1999, National Archives of Singapore, accession number 1999012701.

² Urban Redevelopment Authority, *Living the next lap: Towards a tropical city of excellence* (Singapore: Urban Redevelopment Authority, 1991), 4.

³ Liu Thai Ker, “Interview by CLC”, Centre for Liveable Cities, Ministry of National Development, 17 June 2014, unpublished transcript, accession number CLC/022/2014/002.

⁴ Liu Thai Ker, “Planning and urbanisation in Singapore: A 50-year journey” in *50 years of Urban Planning in Singapore*, ed. Heng Chye Kiang (Singapore: World Scientific, 2017), 29.

⁵ Khoo Teng Chye and Remy Guo, “Making Singapore a liveable and sustainable city” in *50 years of Urban Planning in Singapore*, ed. Heng Chye Kiang (Singapore: World Scientific, 2017), 91.

⁶ Tan Bah Bah, “Words and phrases to remember this decade by”, *The Straits Times*, 30 November 1989, 27; “Home sweet home in the precincts”, *The Business Times*, 21 July 1989, 10.

⁷ “Housing Board to transform its estates”, *The Straits Times*, July 12 1989, 1; Han Fook Kwang, “From an innocuous question comes a dramatic revelation”, *The Straits Times*, 12 July 1989, 17.

⁸ Maylee Chia, “CPF savings for flats upgrading”, *The Straits Times*, 16 December 1989, 1.

⁹ Jenny Lam, “Better living for tomorrow”, *The Straits Times*, 17 October 1989, 3.

¹⁰ Cheong Koon Hean, “The evolution of HDB towns” in *50 years of Urban Planning in Singapore*, ed. Heng Chye Kiang (Singapore: World Scientific, 2017), 105.

¹¹ Phang Sock-Yong, “Singapore’s housing policies” in *Singapore’s economic development: Retrospection and reflections*, ed. Linda Y. C. Lim (Singapore: World Scientific, 2016), 232.

¹² Parliament of Singapore, “Income Tax (Amendment) Bill”, Singapore Parliamentary Reports Vol. 66, 12 July 1996.

¹³ Parliament of Singapore, “Stamp Duties (Amendment) Bill”, Singapore Parliamentary Reports Vol. 66, 12 July 1996.

¹⁴ Monetary Authority of Singapore, “MAS Issues Revised Housing Loan Rules”, 30 August 2002, <https://www.mas.gov.sg/news/media-releases/2002/mas-issues-revised-housing-loan-rules--30-august-2002>; Phang Sock-Yong, “Singapore’s housing policies” in *Singapore’s economic development: Retrospection and reflections*, ed. Linda Y. C. Lim (Singapore: World Scientific, 2016), 237.

¹⁵ Phillip Yeo, “Economic planning for productivity, growth, and prosperity” in *50 years of Urban Planning in Singapore*, ed. Heng Chye Kiang (Singapore: World Scientific, 2017), 48-49.

¹⁶ Board of Architects – Overview, <https://www.boa.gov.sg/who-we-are/overview/>

¹⁷ Dr Tan Wee Kiat, “Interview by CLC”, Centre for Liveable Cities, Ministry of National Development, 2 April 2012, unpublished transcript, accession number CLC/009/2012/008.

¹⁸ National Parks Board, “Biophilic City in a Garden”, 30 July 2019, <https://www.nparks.gov.sg/about-us/city-in-a-garden>

Chapter Five

¹ Mah Bow Tan, “Interview by CLC”, Centre for Liveable Cities, Ministry of National Development, 16 August 2019, unpublished transcript, accession number CLC/055/2019/002.

² Tan Kim Song and Bhaskaran Manu, “The role of the state in Singapore: Pragmatism in pursuit of growth” in *Singapore’s economic development: Retrospection and reflections*, ed. Linda Y. C. Lim (Singapore: World Scientific, 2016), 57-8, 68-9.

³ Mah Bow Tan, “Interview by CLC”, Centre for Liveable Cities, Ministry of National Development, 30 November 2011, unpublished transcript, accession number CLC/001/2011/001.

⁴ Phang Sock-Yong, “Singapore’s housing policies” in *Singapore’s economic development: Retrospection and reflections*, ed. Linda Y. C. Lim (Singapore: World Scientific, 2016), 237.

⁵ Mah, Interview by CLC, 16 August 2019.

⁶ Cheong Koon Hean, “Interview by CLC”, Centre for Liveable Cities, Ministry of National Development, 13 September 2011, unpublished transcript, accession number CLC/004/2011/006.

⁷ Cheong Koon Hean, “Achieving Sustainable Urban Development”, 1 June 2008, in *Ethos, World Cities Summit Issue*, 14 Jun 2008 (Singapore: Civil Service College, 2008).

⁸ Mah Bow Tan, “Interview by CLC”, Centre for Liveable Cities, Ministry of National Development, 30 January 2011, unpublished transcript, accession number WS750084.

⁹ Leong Chee Chiew, “Interview by CLC”, Centre for Liveable Cities, Ministry of National Development, 19 May 2011, unpublished transcript, accession number CLC/009/2011/002.

¹⁰ MIT Senseable City Lab, “Treepedia: Exploring the Green Canopy in cities around the world – Singapore”, <http://senseable.mit.edu/treepedia/cities/singapore>

¹¹ Peter Ho, “Challenges for a New Era”, in *50 Years of Urban Planning in Singapore*, ed. Heng Chye Kiang (Singapore: World Scientific, 2016), 308.

Chapter Six

¹ Ministry of National Development, “Speech by Minister Lawrence Wong at the MND National Day Observance Ceremony 2019”, 8 August 2019, <https://www.mnd.gov.sg/newsroom/speeches/view/speech-by-minister-lawrence-wong-at-the-mnd-national-day-observance-ceremony-2019>

² Prime Minister’s Office Singapore, “National Day Rally 2016 (English – Part 2)”, 21 August 2016, <https://www.pmo.gov.sg/Newsroom/national-day-rally-2016-speech-english-part-2>

³ Cheong Koon Hean, *Seeking a Better Urban Future* (Singapore: The Institute of Policy Studies, 2018).

⁴ Siau Ming En, “Project aims to quantify worth of forests and marine habitats”, *Today Singapore*, 17 August 2018.

⁵ Khaw Boon Wan, “Interview by CLC”, Centre for Liveable Cities, Ministry of National Development, 23 August 2019, unpublished transcript, accession number CLC/055/2019/003.

⁶ Based on DOS’s “Population Trends 2018” report, 91% of resident (defined as Singaporean and PR) households owned their homes in 2018. Department of Statistics, *Population Trends 2018* (Singapore: Department of Statistics, 2018).

⁷ Cheong Koon Hean, Speech at HDB Awards Ceremony and Dinner, 2 November 2011.

⁸ Institute for Government, “Making the centre hold”, Keynote speech by Tharman Shanmugaratnam at the Institute of Government’s 10th Anniversary Conference, July 2019, <https://www.instituteforgovernment.org.uk/sites/default/files/publications/keynote-speech-tharman-shanmugaratnam.pdf>

⁹ Charissa Yong, “National Day Rally 2014: New Municipal Services Office to serve residents seamlessly”, *The Straits Times*, 17 August 2014.

¹⁰ Ministry of National Development, “Municipal Services Office launches smartphone app for feedback”, 25 January 2015, <https://www.mnd.gov.sg/mso/newsroom/in-the-news/view/municipal-services-office-launches-smartphone-app-for-feedback>

¹¹ Ministry of National Development, “Speech by Minister Grace Fu at the Committee of Supply Debate 2019: Smarter Services for Residents, with Residents”, 6 March 2019, <https://www.mnd.gov.sg/newsroom/parliament-matters/view/speech-by-minister-grace-fu-at-the-committee-of-supply-debate-2019-smarter-services-for-residents-with-residents-1>

¹² Urban Redevelopment Authority, “The future is yours to create at Punggol Digital District”, 21 January 2018, <https://www.urau.gov.sg/Corporate/Media-Room/Media-Releases/pr18-02>

¹³ Ministry of National Development, “Budget 2017 speech by Minister Lawrence Wong: Building our future city and home together”, 7 March 2017, <https://www.mnd.gov.sg/newsroom/speeches/view/budget-2017-speech-by-minister-lawrence-wong-building-our-future-city-and-home-together>

¹⁴ Urban Redevelopment Authority, “Nine new precincts participating in the pilot Business Improvement District programme to drive efforts in enlivening our city”, 17 September 2018, <https://www.urau.gov.sg/Corporate/Media-Room/Media-Releases/pr18-56>

¹⁵ Jalelah Abu Baker, “New hub to build precast parts with less manpower”, *The Straits Times*, 24 September 2015.

¹⁶ Angela Teng, “Forecast on tenders with prefabrication technologies launched; construction ITM to be rolled out”, *Today Singapore*, 3 October 2017.

¹⁷ Ministry of National Development, “Budget 2018 Speech by 2M Desmond Lee: Transforming Our Built Environment”, 6 March 2018, <https://www.mnd.gov.sg/newsroom/parliament-matters/view/budget-2018-speech-by-2m-desmond-lee-transforming-our-built-environment>

¹⁸ Building and Construction Authority, “Transforming the Real Estate Industry to be Future-Ready”, 8 February 2018, <https://www.bca.gov.sg/docs/default-source/module/pressRelease/557e8d1b-21cb-4c82-9649-0fb0e2f35613.pdf>

¹⁹ Ministry of the Environment and Water Resources, “About Us”, 1 April 2019, <https://www.mewr.gov.sg/about-us/boards-committees-councils/statutory-board/sfa>

²⁰ Animal and Veterinary Service, National Parks Board, “Who We Are”, 23 May 2019, <https://www.nparks.gov.sg/avs/who-we-are/about-avs/who-we-are>

²¹ Kenneth Er, “Growing a Biophilic City in a Garden”, 5 July 2018, in *Ethos*, Issue 19, 8 Jul 2018 (Singapore: Civil Service College, 2018), <https://www.csc.gov.sg/articles/growing-a-biophilic-city-in-a-garden>

²² Housing & Development Board, “Homes At One With Nature”, 18 July 2018, <https://www.hdb.gov.sg/cs/infoweb/press-release/homes-at-one-with-nature>

²³ National Parks Board, “Skyrise Greenery”, <https://www.nparks.gov.sg/skyrisegreenery>

²⁴ National Parks Board, “Nature Ways”, 10 April 2019, <https://www.nparks.gov.sg/gardens-parks-and-nature/nature-ways>

²⁵ Tan See Nin, “Co-creating the Rail Corridor’s Future”, 6 July 2018, in *Ethos*, Issue 19, 8 July 2018 (Singapore: Civil Service College, 2018), <https://www.csc.gov.sg/articles/co-creating-the-rail-corridor-s-future>

²⁶ National Parks Board, “Friends of Rail Corridor”, <https://www.nparks.gov.sg/railcorridor/friends-of-rail-corridor>

²⁷ “Speech by Minister Lawrence Wong”, 8 August 2019.

Image Credits

The images in this book may not be reproduced for any purpose except with the written permission of the copyright holders listed below.

ABN AMRO [56](#)

Building and Construction Authority [117](#)

Centre for Liveable Cities [132](#)

Civil Aviation Authority of Singapore Collection,
courtesy of the National Archives of Singapore [55\(2\)](#)

Courtesy of Joanna Tan [96, 102](#)

Courtesy of Justin Qian [103](#)

Courtesy of Michelle Decena [94-95](#)

Courtesy of Mah Bow Tan [98](#)

Courtesy of Yane Kang [110-111](#)

Courtesy of the Housing & Development Board
[36\(1\), 36\(2\), 51\(1\), 51\(2\), 69, 70, 86, 87, 99, 101, 108\(1\), 108\(2\), 115](#)

Courtesy of the Kouo Shang-Wei Collection
National Library, Singapore [79](#)

Courtesy of the National Archives of Singapore
[12-13, 37, 55\(1\), 72, 73, 75](#)

G.P. Reichelt Collection,
courtesy of the National Archives of Singapore [74](#)

Gardens by the Bay [106\(1\), 106\(2\)](#)

© KCAPSAArupS333Lekker [121\(1\), 121\(2\)](#)

Ministry of Culture Collection,
courtesy of the National Archives of Singapore [33](#)

Ministry of Information and the Arts Collection,
courtesy of the National Archives of Singapore [20\(1\), 20\(2\), 21, 24, 31, 32\(2\), 32\(3\), 40, 43, 44\(1\), 44\(2\), 46-47, 50\(1\), 50\(2\), 52, 58\(1\), 63, 67, 68\(1\), 68\(2\), 78\(1\), 80-81, 82, 84\(1\), 84\(2\), 88, 89, 90, 92, 93, 109](#)

Ministry of National Development [8, 10, 114\(2\), 116\(2\), 125, 129\(1\), 133](#)

National Parks Board [91, 100\(1\), 100\(2\), 104, 107, 126, 128, 129\(2\)](#)

Primary Production Department Collection,
courtesy of the National Archives of Singapore [39, 41](#)

Ronni Pinsler Collection,
courtesy of the National Archives of Singapore [60](#)

Singapore Land Authority [14](#)

Singapore Press Holdings Limited.
Reprinted with Permission [15, 27, 28-29, 32\(1\), 34, 42, 49, 54, 58\(2\), 59, 62, 71, 113, 114\(1\), 116\(1\), 131](#)

Singapore Tourist Promotion Board Collection,
courtesy of the National Archives of Singapore
[64-65, 76](#)

Tampines North Neighbourhood Renewal
Programme, Participate in Design, 2017 [130](#)

© Urban Redevelopment Authority.
All rights reserved [16, 17, 18\(1\), 18\(2\), 22, 23\(1\), 23\(2\), 25, 26, 38, 78\(2\), 78\(3\), 105, 112, 118, 122, 124](#)

WOHA/K. Kopter [120\(1\)](#)

WOHA/Patrick Bingham-Hall [120\(2\), 120\(3\)](#)



60 Years of Groundbreaking Development

From squatters in slums to proud homeowners in modern housing estates; from modest shophouses to towering skyscrapers; from dusty, festering streets to lush gardens and world-renowned skylines. In six decades, MND and its agencies have made manifest the remarkable transformation that is the Singapore Story.

With a pragmatic, can-do spirit, strong camaraderie and a sense of common purpose, the Ministry reached across agency and department boundaries and gathered the custodians of Singapore's built environment—planners, developers, architects, engineers, policymakers and civil servants—to overcome the many challenges that have confronted Singapore in its journey from Third World to First. Together, the Ministry and its agencies are the *kampung* that built a global city.

Look out any window in Singapore and see the evidence of their groundbreaking ingenuity and hard work: to house a people, to root an economy, to green a city, and to build a nation.

