

Chapter 13

Planning, Land and Infrastructure

To meet public needs and sustain Hong Kong's position as an advanced cosmopolitan city, the government makes timely investment in building new infrastructure, providing a better living environment through effective land-use planning, adequate land supply, greening and heritage conservation.

The Development Bureau consists of two policy branches: the Planning and Lands Branch and the Works Branch.

The Planning and Lands Branch draws up policies governing planning, development, land use and supply, urban renewal, building safety and land registration. Its policy objectives are to facilitate Hong Kong's continual development through effective planning and use of land, a steady and sufficient supply of land, a facilitative building plan approval system, efficient registration of land, promotion and regulation of building safety and timely maintenance, and expedition of urban renewal.

The Works Branch formulates public works policies and coordinates and monitors public works projects. It also takes charge of policy matters concerning the increase of land supply through reclamation outside Victoria Harbour and rock cavern development, the development of a second core business district (CBD2) in Kowloon East, greening and tree management, water supply, slope safety, lift and escalator safety, flood prevention, promotion of professional services, construction manpower resources, workers' registration as well as heritage conservation.

The bureau oversees the departments of Architectural Services, Buildings, Civil Engineering and Development, Drainage Services, Electrical and Mechanical Services, Lands, Planning, and Water Supplies, as well as the Land Registry, which helps coordinate and resolve interdepartmental issues on infrastructure development at an early stage.

The bureau also provides policy guidance to government departments on greening, landscape and tree management, and oversees the government's heritage conservation work.

Planning

Strategic Planning

The government's updated territorial development strategy, 'Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030', guides planning, land and infrastructure development and the shaping of the built and natural environment beyond 2030. Hong Kong 2030+ encompasses a conceptual spatial framework and the following three building blocks to realise the government's vision for Hong Kong to continue to be a liveable, competitive and sustainable 'Asia's World City'.

'Planning for a Liveable High-density City' acknowledges the benefits of a compact high-density development model and proposes eight city attributes to enhance liveability.

'Embracing New Economic Challenges and Opportunities' proposes strategic directions to move the city up the value chain and diversify the economy, thereby creating quality jobs with a range of skills.

'Creating Capacity for Sustainable Growth' sets out to create sufficient development capacity while enhancing the environmental capacity through biodiversity enhancement and environmental improvement, all to be supported by a smart, green and resilient city strategy.

The conceptual spatial framework comprises:

- **one Metropolitan Business Core** – A CBD3 is to be created in the proposed East Lantau Metropolis bridging Hong Kong Island West and Lantau to provide land and space for businesses, to complement the traditional CBD and CBD2 in Central and Kowloon East, and to strengthen Hong Kong's position as a global financial and business hub.
- **two Strategic Growth Areas** – The East Lantau Metropolis involves the creation of artificial islands through reclamation in the central waters, encompassing a smart, liveable and low-carbon development cluster, a CBD3 and conceptual strategic transport infrastructure, to sustain Hong Kong's long-term social and economic development and to create a more balanced spatial development pattern. The New Territories North will be developed through comprehensive planning and more efficient use of brownfield sites and abandoned agricultural land, covering three potential development areas, namely the San Tin/Lok Ma Chau Development Node, the Man Kam To Logistics Corridor and a new town in Heung Yuen Wai/Ping Che/Ta Kwu Ling/Hung Lung Hang/Queen's Hill.
- **three Development Axes** – The Western Economic Corridor will serve as an international and regional gateway supported by strategic transport infrastructure; the Eastern Knowledge and Technology Corridor will provide space to develop a tech ecosystem for high-technology and knowledge-based industries; and the Northern Economic Belt will create potential for research and development and logistics, capitalising on its proximity to Shenzhen.

The government is finalising Hong Kong 2030+, taking into account public views received during a public engagement exercise, the findings of technical assessments, recommendations of the Task Force on Land Supply, and the Lantau Tomorrow Vision.

East Lantau Metropolis

The basic concept of the East Lantau Metropolis is to create artificial islands via reclamation in the waters near Kau Yi Chau and Hei Ling Chau Typhoon Shelter, and to better utilise underused land in Mui Wo, with the aim of creating a smart, liveable and low-carbon development cluster that encompasses a CBD3. The conceptual strategic transport infrastructure will enhance transport connectivity between the urban areas, Lantau and the western New Territories, and strengthen transport links between the traditional CBD and the Pearl River Delta east and west, making the East Lantau Metropolis a new platform with potential for development. The Lantau Tomorrow Vision, promulgated in the 2018 Policy Address, enhances the concept of the East Lantau Metropolis through multiple land supply and strategic transport initiatives, so as to meet Hong Kong's social, economic and housing needs in the medium to long term.

Land Use Strategy

Hong Kong 2030+ advocates a capacity-creating approach to generate both developmental and environmental capacity. Land with high ecological, landscape or historical value will be preserved, while degraded areas, the fringes of built-up areas and the two Strategic Growth Areas could be considered for development. Five broad measures are proposed: optimisation, such as upzoning and rezoning sites for development; swapping, such as freeing up land by relocating land uses not requiring prime locations and releasing land with low value in conservation and public enjoyment for other uses; innovation, such as exploring the idea of rock caverns; creation, such as reclaiming waters with low ecological and environmental value outside the harbour; and life-cycle planning, such as prudent planning of beneficial after-use of quarries, landfill sites and other temporary premises.

Land Supply

The government increases land supply for housing, infrastructure, community facilities and other needs in the short, medium and long term by:

- **Increasing development intensity of developable land** – mainly by raising the development intensity of individual private housing sites by up to 20 per cent and that of public housing sites, excluding those in the north of Hong Kong Island and the Kowloon Peninsula, by 30 per cent, where technical feasibility permits and subject to the Town Planning Board's (TPB) approval;
- **Changing land use and converting reserved sites** – mainly by conducting land use reviews of existing land, such as government sites and reserved sites with no development plans or for which the original purpose is no longer pursued, to identify potential sites suitable for housing and other development needs and to initiate change of their uses;
- **Facilitating and expediting development and redevelopment on existing land** – mainly by expediting railway property development and urban renewal, streamlining

development processes and implementing measures, such as the Pilot Scheme for Arbitration on Land Premium, to facilitate private development;

- **Taking forward major land development projects** – mainly by taking forward comprehensive development of new development areas (NDAs) and new town extensions, including the conversion of brownfield sites and squatter areas in the rural New Territories for high-density development; and
- **Exploring new sources of developable land and space** – mainly by conducting studies to explore new modes or sources of providing developable land, including reclamation outside Victoria Harbour and development of caverns and underground space.

In the short to medium term, the most immediate and effective way to augment land supply is to make more optimal use of developed areas in urban areas and new towns, and land in the vicinity of infrastructure, through increasing development intensity, changing land use and facilitating development.

The Planning and Lands Branch is undertaking a streamlining exercise to consolidate and rationalise the standards and definitions adopted by its departments, namely the Buildings Department, Lands Department and Planning Department, in scrutinising development proposals, such that the approval process can be streamlined without prejudicing statutory procedures and technical requirements. Control parameters, including on building height, greenery and landscaping, were reviewed in 2018. As the exercise continues, streamlined measures will be promulgated as and when they are ready.

In the medium to long term, the government is taking forward land supply projects including the Kwu Tung North and Fanling North NDA, Tung Chung New Town Extension, Hung Shui Kiu NDA and Yuen Long South development. These involve releasing large tracts of brownfield sites and deserted agricultural land as well as reclamation in environmentally less sensitive waters. The government is also exploring reclamation outside Victoria Harbour, cavern and underground development, as well as the proposed artificial islands in the central waters and the New Territories North NDA.

In December, the Task Force on Land Supply submitted to the government its report on land supply strategy and eight land supply options worthy of priority studies and implementation, after conducting an extensive public engagement exercise. The government accepted the task force's recommendations in full and would take forward the eight priority land supply options to ensure a sustained and sufficient supply of land, not only to meet the development needs of Hong Kong at different times and for different purposes, but also to prepare for a rainy day and build up a land reserve, thereby creating more favourable conditions for housing, livelihood and long-term development.

Land Use Reviews

The Planning Department has identified through ongoing land use review in the last few years more than 210 sites with housing development potential in the short to medium term, capable of providing over 310,000 flats in total, 70 per cent of which will be public housing.

As at end-2018, 128 of the 210-odd sites had been zoned or rezoned for housing, estimated to provide about 140,100 public and 43,200 private housing flats. Statutory rezoning procedures had been initiated for another 18 sites that, subject to completion of the rezoning, are estimated to provide about 10,800 public and 1,000 private housing flats.

Housing Land Supply

Public housing land supply comes from new government housing sites and redevelopment of existing public housing estates. Private housing land supply comes from various sources, including the disposal of government sites for private residential development through the Land Sale Programme, railway property development, urban renewal and private development or redevelopment projects.

Commercial and Industrial Land Supply

Measures to increase the supply of commercial/business sites include putting up new commercial and industrial sites for sale, converting government properties and government, institution or community sites in CBDs for commercial use, providing commercial space at the Central Harbourfront upon completion of works, energising Kowloon East as CBD2, and earmarking land for commercial and industrial use in new development projects.

The government sold one industrial site in 2018-19. It expects to put up a number of commercial sites at the Kai Tak Development Area, above Hong Kong West Kowloon Station of the Guangzhou-Shenzhen-Hong Kong Express Rail Link, and at the New Central Harbourfront, Caroline Hill Road and Queensway Plaza for sale in the coming years.

Kowloon East has the potential to supply about 4.4 million square metres of commercial and office floor space in addition to its existing supply of over 2.6 million sq m.

Revitalisation of Industrial Buildings

In the 2018 Policy Address, six new measures were announced to revitalise industrial buildings to provide more floor area to meet changing social and economic needs and make better use of valuable land resources. The measures were as follows:

- To offer waiver-fee exemption to incentivise the wholesale conversion of industrial buildings aged 15 years or above in certain types of zoning, with the condition that 10 per cent of the converted floor space should be designated for government-prescribed uses;
- To relax the maximum permissible non-domestic plot ratio by up to 20 per cent to incentivise the redevelopment of industrial buildings constructed before 1987 at sites located outside residential zones in main urban areas and new towns, subject to TPB's approval;
- To be flexible in applying planning and building design requirements and to cancel the waiver fee so as to facilitate the provision of transitional housing in industrial buildings that have no industrial uses and have been converted wholesale;

- To relax the waiver application policy to permit certain uses for the arts and cultural sectors, creative industries, and innovation and technology sectors in existing units of industrial buildings;
- To broaden the permissible use of buffer floors to facilitate partial conversion of the lower floors of industrial buildings into non-industrial uses; and
- To promulgate a broader definition for 'godown' use under lease provisions.

Land Disposal

Government land is usually disposed of through public sale for private residential, commercial and other developments. Included in the annual Land Sale Programme are sites with potential for sale in the year. The government announces quarterly in advance sites to be sold to provide transparency and certainty for the market and may add sites for sale in the course of a year or a quarter so as to respond more flexibly to changes in market conditions.

Starting from the first quarter of 2018-19, the government will, in addition to publishing the name and tender amount of each successful tenderer under the Land Sale Programme and the names of the other tenderers and their parent company, if provided, at the time of the tender award, further publish the tender amounts of all the other tender submissions on an anonymous basis after all transaction procedures related to the successful bid are completed, for reference by the industry and the market.

During the year, 14 residential sites, one industrial site, one site for logistics development, four sites for petrol stations and one site for a high-tier data centre, covering about 14.6 hectares in total, were sold for about \$81.9 billion. These sites were expected to provide about 7,300 private residential flats and a maximum of 262,223 sq m of gross floor area for commercial or other economic uses.

Lessees of leased land, commonly known as private landowners, may apply to the Lands Department for a lease modification or land exchange so as to, for instance, redevelop based on the town plan. The department acts as a private landlord in considering such applications. Approvals are subject to terms and conditions that may include the payment of premiums and administrative fees. In 2018, the department concluded 94 such transactions, involving about 290.5 hectares and about \$37.2 billion in land premiums, expected to provide 4,218 private housing flats and up to 312,354 sq m of gross floor area for commercial or other economic uses.

The Pilot Scheme for Arbitration on Land Premium, launched in 2014, seeks to facilitate early agreement on land premiums payable for lease modifications and land exchange transactions. It has been extended until October 2020 while the government continues to explore refinements to the scheme in consultation with stakeholders.

Harbourfront Enhancement

The government is seeking to link up the waterfront areas on both sides of the harbour to provide quality public space for all to enjoy unique and spectacular views of the harbour. On 1 July, the bureau's Harbour Unit was reorganised into the Harbour Office, which consisted

of professionals and administrative staff from different disciplines, to provide dedicated professional support.

During the year, the government worked to finalise harbourfront enhancement initiatives proposed under an urban design study for the Wan Chai North and North Point Harbourfront, as well as the alignment of the boardwalk underneath the Island Eastern Corridor, by taking into account public views received. It also began construction of a promenade at Shing Sai Road, Kennedy Town, and the design of various harbourfront projects in Wan Chai North and Tsuen Wan. With the completion of promenades in Western District, North Point and West Kowloon, the waterfront promenade along Victoria Harbour has been extended to about 21 km.

Kowloon East

The Energizing Kowloon East Office steers and facilitates the transformation of Kowloon East, which covers the Kai Tak Development Area and the Kwun Tong and Kowloon Bay business areas, into CBD2.

Ongoing work includes improving the pedestrian environment and traffic conditions, enhancing the environment, and increasing commercial land supply by vacating government facilities in the two action areas. Kowloon East is also the pilot area in Hong Kong to explore smart city development. The office applies similar strategies to the San Po Kong Business Area.

Lantau Tomorrow Vision

In 2018, it was announced that the Lantau Tomorrow Vision aimed at providing a longer-term solution to meet the continuing development of Hong Kong. The vision covers development areas in artificial islands near Kau Yi Chau and Hei Ling Chau in the central waters, North Lantau as well as the western coastal areas of Tuen Mun, including the River Trade Terminal and proposed reclamation at Lung Kwu Tan, to be supported by a new transport network connecting the various development areas.

The first phase of the development in the central waters will focus on the Kau Yi Chau artificial islands, expected to yield a total reclaimed area of about 1,000 hectares capable of accommodating 400,000 to 700,000 people. Plans are for CBD3 to be established on these artificial islands, providing some 200,000 jobs. The government intends to start as soon as possible studies related to artificial islands in the central waters. When pursuing development projects, the planning principle of 'development in the north, conservation for the south' and the direction, 'conservation to precede development', for Lantau Island will be upheld.

Reclamation Outside Victoria Harbour

The government will take forward as soon as possible detailed studies for projects at Lung Kwu Tan, Sunny Bay and Siu Ho Wan. It will also review public concerns over the traffic impact and housing mix of the Ma Liu Shui reclamation project at an appropriate time.

Cavern Development

A territory-wide Cavern Master Plan and the associated technical guidelines have been promulgated to facilitate wider application of cavern development. The planned relocation of

Sha Tin Sewage Treatment Works to caverns progressed steadily towards the start of construction in the first quarter of 2019. A detailed investigation and design study on the planned relocation of the Diamond Hill Fresh Water and Salt Water service reservoirs to caverns began. After these facilities are shifted, a total of 32 hectares of land, comprising 28 hectares in Sha Tin and four hectares in Diamond Hill, can be released for other beneficial uses. Feasibility studies to shift several other government facilities in the New Territories and Kowloon and the Public Works Central Laboratory in Kowloon Bay to caverns continued or commenced.

Underground Space Development

Under a pilot study, conceptual schemes were being developed for the strategic urban areas of Tsim Sha Tsui West, Causeway Bay, Happy Valley and Admiralty/Wan Chai so as to evaluate their feasibility, as well as suitability for priority implementation.

Major Planning Studies and Development Projects

Kwu Tung North and Fanling North New Development Area

The Kwu Tung North and Fanling North outline zoning plans provide the land use framework for the NDA to meet the city's medium to long-term housing, social and economic needs. Through the TPB-approved planning application under Section 16 of the Town Planning Ordinance and the adoption of other site utilisation enhancement measures, the NDA will provide about 71,800 new flats, with about 70 per cent being public housing, to accommodate an additional population of about 188,100. It will also generate about 40,100 new jobs. Development works will be implemented between 2019 and 2031, with the first residents expected to move in starting from 2023.

Tung Chung New Town Extension

The Tung Chung New Town Extension will provide about 49,600 flats and a commercial hub with gross floor area of about 877,000 sq m for office, retail and hotel uses along with about 40,000 new jobs. Reclamation works for Tung Chung East are in progress, with a view to receiving the earliest population intake in 2024.

Hung Shui Kiu New Development Area

The Hung Shui Kiu NDA will provide about 61,000 new flats to accommodate an additional population of about 176,000, with the first batch of residents expected in 2024. It will produce about 150,000 new jobs. The approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan was gazetted in October.

Yuen Long South

The Yuen Long South development area will provide about 28,500 new flats to house an additional population of about 85,400 and will produce about 10,500 jobs. Statutory planning procedures are expected to start in the second half of 2019. The first population intake is targeted for 2028.

Liantang/Heung Yuen Wai Boundary Control Point

The Liantang/Heung Yuen Wai Boundary Control Point is a cross-boundary infrastructural project carried out jointly by the Hong Kong Special Administrative Region (HKSAR) Government and the Shenzhen Municipal People's Government. It is designed to offer direct access by passengers and vehicles. Construction is progressing full steam ahead, aiming for completion in 2019. The connecting road, save for a short section solely for access to the new boundary crossing facility, will be opened to the public in the second quarter of 2019 so as to serve the local communities and relieve congestion along Sha Tau Kok Road.

Lok Ma Chau Loop

The 87-hectare Lok Ma Chau Loop Area will be developed into the Hong Kong-Shenzhen Innovation and Technology Park. The Lok Ma Chau Loop Outline Zoning Plan was gazetted in February. Advance infrastructural works began in June, with the objective of providing the first batch of land parcels not later than 2021 for superstructure development of the park. Detailed design of the main infrastructural works also started in September.

Kai Tak

The Kai Tak Development, covering the former airport precinct and the adjoining areas, has a footprint of about 320 hectares and is a large-scale, highly complex urban development project under phased implementation.

In May, the Chief Executive in Council approved the amended Kai Tak Outline Zoning Plan, which increased residential and office gross floor areas by rezoning and raising building heights and plot ratios. As a result of the amendments, the total flat production and commercial floor space of the Kai Tak Development would increase to about 50,000 units and 2.28 million sq m.

A proposed environment-friendly linkage system for Kowloon East is being examined in a detailed feasibility study to enhance the area's transport connectivity and facilitate its transformation into a CBD2. Elevated modes of transport received general support in a public consultation conducted in 2017 as the most suitable green transport modes.

Wan Chai

The Wan Chai Development phase two project seeks to provide land for essential transport infrastructure, including the Central-Wan Chai Bypass. The reclaimed land will also provide for a harbourfront promenade running from Central to North Point. The section of Road P2 between Lung Wo Road and the Hong Kong Convention and Exhibition Centre as well as the associated roads were commissioned in June.

Tseung Kwan O

Tseung Kwan O area 137 is undergoing a planning and engineering study to examine the feasibility of using the site for housing, commercial and other purposes.

Hong Kong Boundary Crossing Facilities Island of Hong Kong-Zhuhai-Macao Bridge

The government invited the Airport Authority Hong Kong in 2018 to submit a proposal for the topside development of the Hong Kong Boundary Crossing Facilities Island. It will consider the Airport Authority's recommendations carefully before finalising the topside development plan.

Cycle Track Network in New Territories

A vast cycle track network is under development to connect local cycle tracks from Ma On Shan in the east to Tuen Mun and Tsuen Wan in the west. Two main sections, spanning 30km from Ma On Shan to Sheung Shui and 18.5km from Yuen Long to Tuen Mun, are open to the public. The remaining cycle track section from Sheung Shui to Yuen Long and advance works for the Tsuen Wan cycle tracks are under construction, while the Tuen Mun-Tsuen Wan section is under design.

Cross-boundary Planning Studies and Surveys

The government carries out cross-boundary travel surveys regularly on the composition and characteristics of cross-boundary passengers and vehicles and their travel purposes and modes of transport to provide references in planning cross-boundary infrastructure and formulating development strategies.

Town Planning Board

As a statutory body established under the Town Planning Ordinance, the TPB oversees the preparation and review of statutory plans, and considers planning applications. In 2018, it amended six statutory plans and published one new outline zoning plan. The board also promulgates guidelines for statutory planning. It has 32 sets of guidelines.

Anyone may submit views on draft statutory plans to the TPB. In 2018, the board examined 38,896 such submissions and filed 19 statutory plans to the Chief Executive in Council for approval. It also considered 57 applications for amendments to statutory plans, 1,102 for planning permission, 1,158 for amendments to the approved schemes and 68 to review the decisions of its planning committees.

Applicants aggrieved by the TPB's decisions may lodge appeals with the independent Town Planning Appeal Board. In 2018, the appeal board heard three cases.

Hong Kong Planning Standards and Guidelines

The Hong Kong Planning Standards and Guidelines provide the criteria for determining the scale, location and site requirements of various land uses and facilities applicable to planning studies, town plans and development control. These are reviewed from time to time to take account of changes in government policies, demographic characteristics, and social and economic trends. In 2018, amendments to the standards and guidelines covered kindergarten places, elderly services and facilities, and cavern development.

Urban Renewal

Urban renewal improves living conditions in old urban areas, primarily through redevelopment and rehabilitation of dilapidated buildings in need of repair. The bureau formulates policy on urban renewal and oversees the work of the Urban Renewal Authority (URA).

The URA is taking forward district-based projects in Kowloon City. It is also undertaking a district planning study to explore ways of enhancing the efficiency of existing land use and the redevelopment potential in Yau Ma Tei and Mong Kok.

Building Development

Private Sector

In 2018, superstructure works covering a gross floor area of 1.07 million sq m in 90 sites started. Altogether 732 such buildings, with a gross floor area of 2.6 million sq m, were completed at a cost of \$99 billion, compared with 704 buildings with a gross floor area of 2.38 million sq m built at a cost of \$89 billion in 2017.

Public Sector

The Architectural Services Department develops and upkeeps most government buildings and public facilities, except public housing. It takes into account the views of stakeholders in improving barrier-free, greening and landscaping features at government facilities. In 2018, the department started construction of 40 projects, including disciplined services quarters for the Fire Services Department at Pak Shing Kok, Tseung Kwan O, the first pilot public project in Hong Kong to adopt modular integrated construction. Twenty-seven projects were completed, including schools, community green stations, open spaces and government quarters.

Regional and international awards won by government projects during the year included those from the Architects Regional Council Asia and the Asia Pacific Federation of Project Management.

Built Heritage Conservation

The government's heritage conservation policy is to protect, conserve and revitalise as appropriate historical and heritage sites and buildings through relevant and sustainable approaches for the benefit of present and future generations. Due regard is given to development needs in the public interest, respect for private property rights, budget considerations, cross-sectoral collaboration and the engagement of stakeholders and the public.

The Built Heritage Conservation Fund operates two funding schemes to support public engagement and research. Nine applications from professional and academic institutes were approved, with a total grant of around \$17.3 million in 2018. The selected projects have started and will be completed in two years.

As at the year end, 12 projects launched under the Revitalising Historic Buildings Through Partnership Scheme of the bureau's Commissioner for Heritage's Office (CHO) had started

operation. Works for three other revitalisation projects had begun, for completion by 2020. Preparatory works, including detailed design, for another four projects were under way. Separately, the government's joint project with the Hong Kong Jockey Club to revitalise the Central Police Station compound, named Tai Kwun – Centre for Heritage and Arts, began operation in May.

In the private domain, the CHO and the Antiquities and Monuments Office monitor any works or development of declared monuments and graded historic buildings and engage owners of historic buildings to discuss preservation options. The CHO approved grants for maintenance works at seven historic buildings under the Financial Assistance for Maintenance Scheme on Built Heritage in 2018.

Restoration and repair works were carried out at St John's Cathedral in Central, Maryknoll Convent School in Kowloon Tong and I Shing Temple in Yuen Long. Archaeological investigations were conducted in Sai Kung, Lamma Island, Tai Po and Lantau Island.

The Antiquities Advisory Board advises the government on antiquities and monuments. As at end-2018, it had confirmed the gradings of 1,451¹ historic buildings to provide an objective basis for guiding conservation efforts. The exteriors of three Grade 1 historic buildings of the University of Hong Kong, namely Fung Ping Shan Building, Eliot Hall and May Hall, were declared monuments during the year in accordance with the Antiquities and Monuments Ordinance.

Development Framework

Planning Control and Enforcement

The Planning Authority has enforcement powers under the Town Planning Ordinance to tackle unauthorised developments (UDs) in development permission areas. It may serve statutory notices on landowners, occupiers or other responsible persons requiring them to stop or discontinue a UD within a specified time. A further statutory notice may be served to require the site to be reinstated. Non-compliance is a statutory offence.

In 2018, the Planning Authority discovered 522 new UD, including unauthorised open storage, workshops, car parks and land or pond fillings, and issued 3,712 warning letters or reminders involving 714 cases, 2,654 enforcement notices involving 457 cases, 734 reinstatement notices involving 138 cases and 2,754 compliance notices involving 415 cases. A total of 199 defendants in 59 cases were convicted. The enforcement and prosecution actions resulted in the discontinuation of 396 UD on 93 hectares of land. Another 40 UD occupying seven hectares of land were regularised through the planning application system.

Land Control and Lease Enforcement

The Lands Department carries out squatter control work. There are about 384,100 surveyed squatter structures throughout the territory. These structures are tolerated until they cease to exist or are to be cleared for development, environmental improvement or safety reasons.

¹ This figure comprises items on the list of 1,444 historic buildings and new items proposed for grading.

In 2018, the department demolished 182 illegal structures and extensions, in addition to unauthorised structures cleared in the context of land control and lease enforcement. It also handled about 16,500 cases of reported unlawful occupation of government land and about 1,800 cases involving breaches of lease conditions.

The department keeps a register of registered man-made slopes that records maintenance responsibility. It also inspects and maintains about 18,000 registered man-made slopes regularly, implementing maintenance works on about 7,000 of them in 2018.

During the year, the department's Tree Unit provided in-house advice about tree and landscape issues on leased land and unmanaged government land in about 3,640 cases. The Land and Vegetation Contract Management Section of the department conducted ad hoc vegetation maintenance work in about 26,740 cases.

Small House Policy Administration

The Lands Department administers the small house policy for indigenous villagers in the New Territories and the rebuilding of old village houses. In 2018, it approved 830 applications to build small houses and 335 applications to rebuild old village houses. The department processes rent exemption requisitions for indigenous villagers' rural properties according to exemption criteria listed in the Government Rent (Assessment and Collection) Ordinance.

Land Conveyancing

The Lands Department's Legal Advisory and Conveyancing Office provides legal advice and conveyancing services for government land transactions. It drafts all government land disposal and lease modification documents, checks titles in land acquisitions, administers the Lands Department Consent Scheme, approves Deeds of Mutual Covenant, processes apportionments of premiums and government rents and recovers arrears of government rents by taking re-entry or vesting action. In 2018, it approved 44 applications for the sale of 21,722 units under construction and approved 40 Deeds of Mutual Covenant.

Land Acquisition

Private land may be acquired for public use through voluntary surrender or resumption under ordinances which provide for compensation for the property's value and the loss of business. If the amount of payment cannot be agreed, either party may seek adjudication at the Lands Tribunal. The Lands Department is involved in resuming land for public works, urban renewal and railway development projects under the Lands Resumption Ordinance and other legislation. In 2018, some 2,400 sq m of private land were acquired and \$563.7 million compensation was paid for public works projects, \$75 million compensation was paid to owners of 22 resumed properties affected by 12 urban renewal projects, and \$7 million compensation was paid for railway projects.

Land Registration

The Land Registry registers land-related documents and keeps land records in electronic format for public search. Major types of documents include agreements for the sale and purchase of building units and land, assignments of building units and land, and mortgages and legal

charges. More than three million land registers and 24 million land-related documents can be retrieved electronically. During the year, 526,632 land-related documents were lodged for registration.

Hong Kong adopts a deeds registration system. To enhance certainty of title and simplify conveyancing procedures, the Land Titles Ordinance has been enacted to provide for a title registration system which will come into effect after a comprehensive review is completed and the necessary amending legislation is passed. The registry is working with stakeholders to forge consensus on rectification and indemnity arrangements, a mechanism for bringing existing land under the title registration system and a proposal to implement title registration on new land first.

Survey, Mapping and Geospatial Information Service

The Lands Department's Survey and Mapping Office provides survey and mapping services to support land administration and infrastructure development, and develops maps in digital and printed formats with different themes to meet the public's needs, such as topographic maps, countryside maps and guide books. The office carries out land boundary surveys and provides photogrammetric and aerial survey services. It maintains a geodetic survey network and the Satellite Positioning Reference Station Network System, which form the essential positioning infrastructure in Hong Kong for applications in mapping, construction, navigation, land use planning and scientific research. The office operates the Land Information System to maintain updated digital maps and databases containing land information and geospatial data. It also provides support to the Land Survey Authority to administer the Land Survey Ordinance, which governs the registration and conduct of authorised land surveyors and land boundary survey standards.

The office provides a web map service to the public through the internet and mobile applications, including free maps with integrated information on government facilities. It revamped the GeoInfo Map service in 2018 to provide a smooth browsing experience and support the delivery of cross-platform, up-to-date and real-time map services and geospatial data.

In August, the office launched the mobile-friendly Hong Kong Map Service 2.0 to provide a one-stop platform for the order and supply of map products and land survey records in printed and digital formats.

In December, the office launched the Hong Kong GeoData Store as the alpha-version portal of the Common Spatial Data Infrastructure initiative being taken forward under the bureau, to enhance the sharing and accessibility of geo-tagged information, thereby facilitating innovative and value-added reuse by application developers, the academia and the public.

Building Safety and Maintenance

Ensuring the safety of Hong Kong's ageing building stock is one of the bureau's key duties. It works with the Buildings Department and partner organisations to enhance building safety.

Applying the principle that prevention is better than cure, the Buildings Department enforces the Mandatory Building Inspection Scheme and Mandatory Window Inspection Scheme to tackle building decay at its root by requiring owners of target buildings to inspect and repair their buildings and windows. In 2018, the department issued 31,124 statutory notices to 845 buildings under these schemes.

The Buildings Department, URA and Hong Kong Housing Society support building owners in carrying out repairs and maintenance. In 2018, subsidies and loans exceeding \$290 million were granted to eligible property owners.

The URA's 'Smart Tender' Building Rehabilitation Facilitating Services scheme, launched in 2016, provides technical support to building owners in carrying out repairs and maintenance, to reduce the risk of bid rigging during procurement. Eligible building owners may participate at a concessionary rate. As at end-2018, 550 applications had been approved.

To address hazards caused by old and dilapidated buildings, the government in 2018 launched Operation Building Bright 2.0, which is funded by a sum of \$3 billion earmarked in the 2017 Policy Address. This provides substantial financial help to needy groups to carry out inspection and rehabilitation works pertinent to building safety. In partnership with the URA, the operation accepted 600 applications from July to October. As at end-2018, the Buildings Department had selected 70 eligible buildings whose owners had difficulties in coordinating the prescribed inspection and repair works, and had exercised its statutory power to carry out the requisite works in default of owners.

On enforcement, the department takes action against unauthorised building works (UBWs). It takes priority enforcement against UBWs that are new or under construction, and those which constitute an obvious hazard or imminent danger to life and property. UBWs are to be removed according to the department's enforcement policy if they have been erected on building exteriors, including rooftops, podiums and yards; are associated with subdivided units; are found in New Territories exempted houses; or are signboards. In 2018, the department served 12,819 statutory removal orders and removed 27,534 UBWs. It also instigated 3,360 prosecution cases and secured 2,443 convictions in court for failure to comply with the orders, resulting in fines totalling \$16.95 million. A publicity campaign by the department fosters a culture of building safety in the community.

Lifts and Escalators

The government implements various measures to enhance the safety of lifts and escalators, including strengthening inspections and promoting modernisation of aged lifts and escalators through partnering with the URA to implement the Lift Modernisation Subsidy Scheme.

Greening, Landscape and Tree Management

The Greening, Landscape and Tree Management Section is the central authority with an overall policy responsibility to formulate and coordinate landscape and tree management strategies and initiatives. It promotes a holistic approach to landscape and tree management, advocating adequate space allocation for new planting, proper selection of plant species, quality landscape

design and planting practices in the upstream, and proper tree maintenance in the downstream, with public safety as a paramount consideration.

In December, the section released the *Street Tree Selection Guide* based on the principle of 'right tree, right place' and with a view to encouraging vegetation diversity. The guide features 80 tree species, half of which are native to Hong Kong, that are less commonly used and are suitable for different roadside environments. The guide is meant for use by government departments and for reference by the industry and public.

The section, together with departments that also look after trees, manages trees in areas with high traffic and pedestrian flow according to the Guidelines for Tree Risk Assessment and Management Arrangement to protect public safety, promotes the *Handbook on Tree Management* to private property owners, helps the Arboriculture and Horticulture Industry Training Advisory Committee develop a qualifications framework, and raises awareness of proper tree management through community engagement.

Infrastructure

Construction 2.0

The Hong Kong construction industry has been facing the challenges of high construction costs and an ageing construction workforce, in addition to rising public aspirations for better performance of public works projects, in recent years. To cope with these challenges, the government is promoting Construction 2.0 – Time to Change to reform and upgrade the construction industry. Under the three pillars of innovation, professionalisation and revitalisation, the government aims to uplift the capacity and sustainability of the industry, increase productivity, enhance regulation and quality assurance, improve site safety and reduce environmental impact. It has selected a number of public works projects to pilot the new initiatives under Construction 2.0.

Infrastructure Investment

The government builds new infrastructure and improves existing facilities to meet economic development needs and enhance the living environment. Capital works expenditure was about \$84 billion in 2017-18. The annual expenditure is expected to stay at a high level for the next few years.

Project Cost Management

The bureau signed a Memorandum of Understanding with the Infrastructure and Projects Authority of the United Kingdom in 2018 to enhance collaboration in exchanging expertise and experience between Hong Kong and the UK in managing the costs of infrastructure projects.

The Project Cost Management Office devises and implements initiatives to enhance project delivery capability, so as to improve the performance of public works projects. In recent years, it has been promoting the use of innovative construction methods and advanced technologies, such as building information modelling and modular integrated construction.

Drainage Services

The Drainage Services Department manages 2,750km of drains and watercourses and 27 village floodwater pumping schemes. It carries out flood prevention projects to cater for local developments and address probable effects of climate change. The planning, design and construction of flood prevention works in 2018 cost about \$30 billion.

The Wong Tai Sin section of the Kai Tak River improvement works was completed in 2018. Apart from mitigating the risk of flooding in nearby areas, the department is taking the opportunity to introduce greening and ecological elements at Kai Tak River to revitalise the area and make it an urban green river corridor.

The department inspects, de-silts and repairs drainage systems regularly. In 2018, it inspected 2,300km and de-silted 780km of drains and watercourses at a cost of about \$135 million.

Slope Safety

The Civil Engineering and Development Department improves slope safety by adopting better standards and technology, ensuring all new man-made slopes meet safety standards, improving the safety of existing man-made slopes, and mitigating natural terrain landslide risks. The department also issues landslip warnings and provides information, education and community advisory services on slope safety.

Under the Landslip Prevention and Mitigation Programme, the department spent \$1.04 billion in 2018 to upgrade 152 substandard government man-made slopes and to mitigate the landslide risk of 33 natural hillside catchments. It also conducted safety screening studies on 100 private man-made slopes.

Drinking Water Safety

The Water Supplies Department collects water samples from the taps of randomly selected premises, as one of the key measures under the Action Plan for Enhancing Drinking Water Safety in Hong Kong, launched in 2017. Up till the end of 2018, all the water samples indicated the drinking water quality of the selected premises was in compliance with the Hong Kong Drinking Water Standards. The World Health Organisation (WHO) recognises the HKSAR Government's efforts in devising guidelines and templates for the Water Safety Plan for Buildings, which were uploaded in 2018 to a website managed jointly by the WHO and International Water Association for global reference.

Water Supplies

Water from Guangdong

Since 1965, Hong Kong has been receiving raw water from the Dongjiang, now the city's major source of raw water. The Dongjiang water supply agreement maintains flexibility in the daily supply rate, ensuring a reliable source of supply and avoiding wastage of precious water resources. In 2018, 736 million cubic metres of Dongjiang water was imported.

Water Storage and Consumption

Full supply was maintained throughout the year, during which the territory recorded 2,163mm of rainfall. Storage reservoirs held some 413 million cubic metres of water at the end of 2018.

There were about three million water customer accounts as at the year end. Some 1,013 million cubic metres of fresh water was consumed in 2018, with an average daily supply of about 2.78 million cubic metres. Another 279 million cubic metres of sea water was supplied for toilet flushing.

Total Water Management

The government manages water demand and supply in an integrated, multisectoral and sustainable manner under its Total Water Management strategy. It contains growth in water demand through water conservation measures, which include running Cherish Water Campus, an educational programme for primary schools and kindergartens; installing flow controllers in public housing estates, schools and government buildings; and mandating the use of water-saving devices registered under the Water Efficiency Labelling Scheme in new plumbing works.

In May, tenders were invited for the 'design, build and operate' contract for the first stage of a proposed desalination plant in Tseung Kwan O. Funding is expected to receive Legislative Council approval in 2019. Infrastructural works to supply reclaimed water to the north-eastern New Territories for non-potable uses are also in progress. A public consultation for the supply and use of recycled water, including reclaimed water, was completed in December and the feedback was supportive. Preparation work for the associated legislation would proceed.

Water Works

The expansion of Tai Po Water Treatment Works and its ancillary water transfer facilities were substantially completed in December 2018, while the main works for the in situ re-provisioning of Sha Tin Water Treatment Works (South Works) are targeted to begin in early 2020.

Construction Industry

Construction Industry Council

The Construction Industry Council supports the development of the construction industry, in particular by training construction workers. In 2018, the council established the Hong Kong Institute of Construction, offering well-structured and advanced programmes accredited under the Qualifications Framework to attract more young talent, train more high-calibre and professional construction practitioners and provide them with clear career paths.

The Designated Workers for Designated Skills requirement under the Construction Workers Registration Ordinance requires that works on construction sites must be carried out by registered skilled or semi-skilled workers of the relevant trade. The compliance situation is satisfactory.

In October, the government launched the \$1 billion Construction Innovation and Technology Fund to encourage wider adoption of innovative technology to boost productivity, uplift build

quality, improve site safety and enhance environmental performance. The council implements the fund.

The council's Modular Integrated Construction Display Centre opened in November to demonstrate the technical viability of building flats using modular integrated construction in Hong Kong and encourage wider adoption of the technology to enhance productivity, quality and safety in the industry.

In December, the council approved the implementation of enhancements to the Subcontractors Registration Scheme in early 2019 to improve industry safety, drive professionalism and establish a team of responsible subcontractors.

In 2018, the council set up two task forces comprising government representatives, members of professional institutions and building information modelling (BIM) experts to develop new BIM standards and training courses for the construction industry. A new BIM Certification and Accreditation Board was also set up to steer certification and accreditation matters.

Promotion of Professional Services

The Agreement on Economic and Technical Cooperation, signed in 2017 under the Mainland and Hong Kong Closer Economic Partnership Arrangement (CEPA), strengthens the provisions of previous CEPA agreements and supplements and outlines the basis for cross-boundary cooperation. At the regional level, it deepens cooperation in the Pan-Pearl River Delta region and the pilot free trade zones, including Qianhai, Hengqin and Nansha, and takes forward the mutual recognition of professional qualifications.

As at the end of 2018, the Qianhai Authority had selected six pilot projects to reinforce its commitment to implementing Hong Kong's project management system. It also established a register comprising Hong Kong companies in the architectural, building services, quantity surveying, structural engineering, building surveying and landscape architectural disciplines. Companies listed in the register may provide professional services for projects funded principally by Hong Kong enterprises.

In 2018, the Development Bureau continued discussions with the Administration of Nansha Economic and Technological Development Zone with a view to signing a cooperation agreement to extend facilitation measures to Nansha that would be similar to those set out in agreements signed with Qianhai and Hengqin. In parallel, the bureau continued its dialogue with the Mainland authorities to advance and broaden mutual recognition of professional qualifications between the two sides.

Websites

Construction 2.0 – Time to Change: www.hkc2.hk/en/index.php

Development Bureau: www.devb.gov.hk

GeoInfo Map: www.map.gov.hk

Hong Kong GeoData Store: geodata.gov.hk

Hong Kong Map Service 2.0: www.hkmapservice.gov.hk