

Planning, Land and Infrastructure

The government sets out long-term strategies for land use, urban renewal, greening, heritage conservation and infrastructure development in Hong Kong in order to promote economic and community development, maintaining Hong Kong as a world-class city.

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 new core business district (CBD) 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 Development 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

Strategic land use planning provides important guidance to the city's development. In end-April, the government completed a six-month public engagement exercise on the latest update of the territorial development strategy, 'Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030', which serves to guide planning, land and infrastructure development and the shaping of the built and natural environment beyond 2030. Hong Kong 2030+ encompasses three building blocks, namely 'Planning for a Liveable High-density City', 'Embracing New Economic Challenges and Opportunities' and 'Creating Capacity for Sustainable Growth', as well as a conceptual spatial framework 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**
- **two Strategic Growth Areas** – The East Lantau Metropolis and the New Territories North will provide capacity for long-term sustainable development.
- **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 for development of a techecosystem for high-technology and knowledge-based industries; and the Northern Economic Belt will create potential for warehousing, research and development and modern logistics, capitalising on its strategic location close to Shenzhen.

The government is finalising Hong Kong 2030+ by taking into account the public views received and the findings of technical assessments.

Strategic Growth Areas

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.

New Territories North

In developing the New Territories North, comprehensive planning and more efficient use of brownfield sites and abandoned agricultural land would be employed to provide land for new communities, modern industries and industries preferring a boundary location, while improving the living environment of the area. 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, have been identified. Strategically, the growth area provides space to develop economic and employment nodes outside the Metropolitan Business Core and redresses the home-job imbalance of the territory. Spatially, it leverages the strategic transport infrastructure serving and being improved for the area and its proximity with Shenzhen to capture economic opportunities for Hong Kong. The land use recommendations were included in the Hong Kong 2030+ public engagement exercise.

Land Use Strategy

Hong Kong 2030+ advocates a capacity-creating approach to generate both development 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

Providing land for housing, infrastructure, community facilities and other needs is an important part of the government's work in pursuing sustainable development. The government increases land supply in the short, medium and long term by:

- **Increasing development intensity of developable land** – mainly by raising the development intensity of individual housing sites by up to 20 per cent where planning terms permit;
- **Changing land use and converting reserved sites** – mainly by conducting land use reviews of existing land, such as government sites, reserved sites with no development plans or for which the original purpose is no longer pursued, and green belt, to identify potential sites suitable for housing and other development needs and to initiate change of their uses where planning terms permit;

- **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 where planning terms permit.

In the medium to long term, the government is taking forward land supply projects including the Kwu Tung North and Fanling North NDAs, 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 East Lantau Metropolis and New Territories North under Hong Kong 2030+.

In September, the government appointed a Task Force on Land Supply to lead a major public engagement exercise in the first half of 2018 aimed at examining the pros and cons of different land supply options in a thorough and macro manner, to achieve the broadest consensus in the community on the issue of land supply.

Land Use Reviews

To increase land supply, 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. These comprise 42 sites identified under initiatives announced in the 2013 Policy Address, expected to provide about 40,000 flats, over 60 per cent for public housing; about 150 sites announced in the 2014 Policy Address, to yield over 210,000 flats, over 70 per cent for public housing; and 26 sites announced in the January 2017 Policy Address, to yield over 60,000 flats, over 80 per cent for public housing.

As at end-2017, 104 of the 210-odd sites had been zoned or rezoned for housing, estimated to provide about 75,000 public and 47,900 private housing flats. Statutory rezoning procedures had been initiated for another 41 sites that, subject to completion of the rezoning, are estimated to provide about 69,800 public and 4,300 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 the second CBD, and earmarking land for commercial and industrial use in new development projects.

Under the 2017-18 Land Sale Programme, the government has put up three sites, one each for commercial, hotel and industrial uses, for sale in the first three quarters. The government expects to put up a number of commercial sites, including at the Kai Tak Development Area, above the terminus of the Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link, and at the New Central Harbourfront, Caroline Hill Road, Queensway Plaza and Sai Yee Street, for sale starting from 2018-19. These sites will provide a total of about 1.1 million square metres of floor area.

Kowloon East has the potential to supply about 4.5 million sq m of commercial and office floor space in addition to its existing supply of about 2.5 million sq m. A site in the Kai Tak Development Area was sold in 2017, providing about 174,000 sq m of commercial and office floor space. The total commercial and office gross floor area planned for the Kowloon Bay and Kwun Tong action areas is about 560,000 sq m.

On a separate front, a study is in progress on how to utilise land optimally at the Hong Kong Boundary Crossing Facilities Island of the Hong Kong-Zhuhai-Macao Bridge for commercial and other economic uses. Up to 500,000 sq m of gross floor area can be made available.

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.

During the year, 10 residential sites, two commercial sites, one commercial/hotel site, two business sites, one hotel site, one industrial site and three petrol stations, covering about 13.3 hectares in total, were sold for about \$128.4 billion, providing about 6,080 private residential flats and a maximum of 449,438 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 2017, the department concluded 105 such transactions, involving about 395.6 hectares and about \$48.3 billion in land premiums, expected to provide 17,293 private housing flats and up to about 209,850 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 agreement on land premiums payable for lease modifications and land exchange transactions. It has been extended until October 2018 and will be reviewed in due course.

Harbourfront Enhancement

To enhance the harbourfront, the government is constructing promenades on both sides of the harbour and improving their accessibility for public enjoyment. During the year, an urban design study for the Wan Chai North and North Point harbourfront continued and proposed enhancement measures were revised, taking into account views from the Harbourfront Commission and the public. The government was also refining the alignment and design of a proposed boardwalk underneath the Island Eastern Corridor based on views received in a community engagement exercise that ended in January. A feasibility study to enhance the design of cycle tracks in waterfront promenades began in April, while new three-year tenancies for the temporary use of an event space and the Hong Kong Observation Wheel on the Central Harbourfront started in May and November respectively. The government is working with the Harbourfront Commission to implement enhancements under the commission's purview through a dedicated team and dedicated funding of \$500 million.

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 another CBD. Its scope of work was extended to the adjoining San Po Kong Business Area in October.

Ongoing work includes enhancing the pedestrian environment, improving traffic conditions, enhancing the environment, and increasing land supply by vacating government facilities in two action areas for commercial and office use. Kowloon East is the pilot area in Hong Kong to explore smart city development.

Lantau Island

Lantau has the potential to support a population of 700,000 to one million and create about 470,000 jobs. In June, the government released the Sustainable Lantau Blueprint, which embraces the overarching principle of 'Development in the North; Conservation for the South'. Major economic and housing developments are planned in north Lantau and the East Lantau Metropolis, while northeast Lantau will become a node for leisure, entertainment and tourism.

The main part of the island, particularly south Lantau, is for conservation with sustainable leisure and recreational uses.

Reclamation Outside Victoria Harbour

In 2017, technical studies on proposed reclamation at Ma Liu Shui, Siu Ho Wan and Lung Kwu Tan were largely completed. The government plans to begin as soon as possible planning and engineering studies on reclamation at Sunny Bay, Lung Kwu Tan, and Ma Liu Shui together with the adjoining vacated site of the Sha Tin sewage treatment works after its relocation to caverns, as well as strategic studies on artificial islands in the central waters between Hong Kong Island and Lantau.

Cavern Development

A territory-wide Cavern Master Plan and other initiatives to facilitate wider application of cavern development are being implemented. The planned relocation of the Sha Tin sewage treatment works to caverns was under a detailed investigation and design study so the original 28-hectare site could be released for residential and other uses. A feasibility study to move Diamond Hill Fresh Water and Salt Water Service Reservoirs to caverns was substantially completed and would be followed by a detailed investigation and design study. Feasibility studies to shift several other service reservoirs or sewage treatment works in Tsuen Wan, Sham Tseng, Sai Kung and Kowloon to caverns continued.

Underground Space Development

A territory-wide study was completed to provide the basis for future planning and development of underground space. Under a separate 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, and underground master plans would be formulated for these areas.

Major Planning Studies and Development Projects

Kwu Tung North and Fanling North New Development Areas

The Kwu Tung North and Fanling North outline zoning plans provide a land use framework to meet the city's long-term housing, social and economic needs. The NDAs will provide about 60,000 new flats, with about 60 per cent being public rental and Home Ownership Scheme units, to accommodate an additional population of about 173,000. The two areas will also produce about 37,700 new jobs. Development works are ongoing, to be completed fully by 2031. The first phase involves site formation and associated engineering infrastructure to support about 16,000 homes for about 46,600 residents, with the first population intake estimated for 2023 at the earliest, and to support subsequent NDA development. Detailed design and site investigation are under way and major construction works may start in 2019 at the earliest.

Tung Chung New Town Extension

The Tung Chung New Town Extension will provide about 49,400 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. The Chief Executive in Council approved the statutory plans and authorised the reclamation works in February, followed by the Legislative Council's approval of \$20.21 billion in October to fund the reclamation and advance works. Reclamation began in end-2017 for the first population intake in 2023-24 at the earliest.

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 and will produce about 150,000 new jobs, with the first population intake expected in 2024. The draft Hung Shui Kiu and Ha Tsuen outline zoning plan was gazetted on 26 May 2017.

Yuen Long South

The Yuen Long South development area will provide about 28,500 new flats to house an additional population of 85,400 and will produce about 10,500 jobs. The first population intake is expected in 2027-28. The environmental impact assessment report on the development was approved in November 2017.

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 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, striving for completion in 2018.

Lok Ma Chau Loop

In 2017, the HKSAR and Shenzhen governments signed a memorandum of understanding to jointly develop the 87-hectare Lok Ma Chau Loop into the Hong Kong-Shenzhen Innovation and Technology Park. In December, the Town Planning Board (TPB) agreed, after considering stakeholders' views, that the draft Lok Ma Chau Loop outline zoning plan could be submitted to the Chief Executive in Council for approval. Statutory procedures for advance road works have been completed and detailed design for phase one of the main works is under preparation.

Kai Tak

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

In January, the TPB agreed to the government's proposed amendments in the Kai Tak outline zoning plan to increase residential and office gross floor areas by rezoning and raising building heights and plot ratios. Subject to authorisation of the outline zoning plan, 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 new CBD. Elevated modes of transport received general support in a public consultation conducted in mid-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 be used to develop a harbourfront promenade from Central to North Point. The land required for the bypass has been formed. The roads connecting to the bypass will be completed before the bypass is commissioned between end-2018 and the first quarter of 2019.

Tuen Mun West

A planning and engineering study is in progress for proposed developments in Tuen Mun areas 40 and 46 and the adjoining areas. A draft recommended outline development plan is being drawn up.

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

A planning, engineering and architectural study is exploring how to utilise land on the island optimally for topside and underground development for commercial and other economic uses. A draft recommended outline development plan is being formulated for stage 2 community engagement.

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 is under construction and that from Tuen Mun to Tsuen Wan is under design.

Cross-Boundary Planning Studies and Surveys

The government commissions cross-boundary travel surveys regularly on the composition and characteristics of vehicles and passengers and their travel purposes and transport patterns. The findings help in planning cross-boundary infrastructure and formulating development strategies.

Town Planning Board

The Town Planning Board (TPB), established under the Town Planning Ordinance, oversees the preparation and review of statutory plans, and considers planning applications. In 2017, it amended 22 statutory plans and published six new outline zoning plans. The TPB also promulgates guidelines for statutory planning. It had 32 sets of guidelines as at the year end.

Anyone may submit views on draft statutory plans to the TPB. In 2017, the board examined 18,700 such submissions and filed 23 statutory plans to the Chief Executive in Council for approval. It also considered 68 applications for amendments to statutory plans, 1,046 for planning permission, 885 for amendments to the approved schemes and 47 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 2017, the appeal board heard five cases, of which two were dismissed, one was allowed and two were awaiting the decision.

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 2017, updates were made to the chapter on conservation regarding country parks and special areas, heritage conservation policy and animal and plant species.

Urban Renewal

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

In May, the URA began 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, with a view to adopting feasible ideas of urban renewal in other districts.

Building Development

Private Sector

In 2017, superstructure works covering a gross floor area of 2.44 million sq m in 121 sites started. Altogether 704 such buildings, with a gross floor area of 2.38 million sq m, were completed at a cost of \$89 billion, compared with 557 buildings with a gross floor area of 2.13 million sq m built at a cost of \$72 billion in 2016.

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 landscape features at government facilities. In 2017, the department started construction of 14 projects. It completed 29 projects, including the Hong Kong Children's Hospital, schools, special schools, community green stations and open spaces.

Regional and international awards won by government projects in 2017 included those from the International Union of Architects, Architects Regional Council Asia, World Association of Chinese Architects and Chicago Athenaeum.

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-sector collaboration and the engagement of stakeholders and the public.

Under the Built Heritage Conservation Fund, two new funding schemes to support public engagement and research were launched in 2017.

As at end-2017, nine projects launched under the Revitalising Historic Buildings Through Partnership Scheme of the bureau's Commissioner for Heritage's Office (CHO) had started operation. Three other projects were expected to be completed in 2018, while another three were under preparation and were expected to start renovation works by 2018. Proposed projects for five government-owned historic buildings were being assessed. The Viva Blue House, revitalised from the Blue House Cluster, won the top honour, the Award of Excellence, in the 2017 United Nations Educational, Scientific and Cultural Organisation Asia-Pacific Awards for Cultural Heritage Conservation. Separately, the government partnered with the Hong Kong Jockey Club and the Musketeers Education and Culture Charitable Foundation and its partners to revitalise the Central Police Station Compound and the former Police Married Quarters on Hollywood Road respectively.

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. To help owners maintain their premises, the CHO approved grants for maintenance works at four privately owned graded historic buildings under the Financial Assistance for Maintenance Scheme in 2017.

Restoration and repair works were carried out on Chik Kwai Study Hall in Yuen Long and Man Mo Temple in Sheung Wan. Archaeological investigations were conducted on Lamma Island and Cheung Chau. Most of the archaeological features, including ancient wells and stone building remnants of the Song-Yuan period, unearthed at the works site for To Kwa Wan MTR station along the Shatin to Central Link will be preserved in situ for future public display.

The Antiquities Advisory Board advises the government on antiquities and monuments. As at end-2017, it had confirmed the gradings of 1,398¹ historic buildings to provide an objective basis for guiding conservation efforts. Tung Lin Kok Yuen in Happy Valley, Kowloon Union Church in Yau Ma Tei and Yeung Hau Temple in Tai O were declared monuments during the year in accordance with the Antiquities and Monuments Ordinance.

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

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 2017, the Planning Authority discovered 428 new UD, including unauthorised open storage, workshops, car parks and land or pond fillings, and issued 3,361 warning letters or reminders involving 613 cases, 2,393 enforcement notices involving 378 cases, 590 reinstatement notices involving 108 cases and 2,395 compliance notices involving 381 cases. A total of 149 defendants in 52 cases were convicted. The enforcement and prosecution actions resulted in the discontinuation of 381 UD on 90 hectares of land. Another 22 UD occupying 2 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 385,800 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. The department demolished 235 illegal structures and extensions in 2017, in addition to unauthorised structures cleared in the context of land control and lease enforcement.

The department handled about 18,200 cases of reported unlawful occupation of government land, of which about 11,600 cases required site clearance, including clearance by the occupiers in response to the department's enforcement actions. It handled about 2,000 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 20,000 registered man-made slopes regularly, implementing maintenance works on about 7,000 of them in 2017.

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 3,120 cases. The Land and Vegetation Contract Management Section of the department conducted ad hoc vegetation maintenance work in about 18,000 cases.

Small House Policy Administration

The Lands Department administers the small house policy for indigenous villagers in the New Territories and approves the rebuilding of old village houses. In 2017, it approved 818 applications to build small houses and 330 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 2017, it approved 49 applications for the sale of 16,408 units under construction and approved 50 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 2017, some 37,800 sq m of private land were acquired and \$744.3 million compensation was paid for public works projects; \$236.6 million compensation was paid to owners of 51 resumed properties affected by 23 urban renewal projects; and \$47 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, agreements for the sale and purchase of land, assignments of building units, assignments of land, and mortgages and legal charges. More than three million land registers and 23 million documents can be retrieved electronically. During the year, 530,822 land 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 but it will not come into effect until a comprehensive review is completed and the necessary amending legislation is passed. The registry has been working closely with stakeholders on revised proposals about rectification and indemnity provisions, options 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 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 also maintains a geodetic survey network and the Satellite Positioning Reference Station Network System, which form the essential positioning infrastructure in Hong Kong, as well as the Land Information System, which enables more efficient survey and mapping activities. The office 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 Satellite Positioning Reference Station Network provides data for positioning applications in mapping, construction works, navigation, land use planning and scientific research. In 2017, it was enhanced to support various satellite positioning applications within the territory using multi-constellation Global Navigation Satellite Systems (GNSS), including China's Beidou Navigation Satellite System. The GNSS real-time raw data stream was released via www.data.gov.hk as public-sector information.

The office's web map service, GeoInfo Map, provides online geospatial information for public access. Its MyMapHK is a mobile map application which provides on-the-go access to official government digital maps and community facilities via their mobile devices. To facilitate digital inclusion, the office developed another mobile map application, VoiceMapHK, to help the visually impaired identify their locations and retrieve geographic information through voice-overs. The *eHongKongGuide*, an electronic map book, was launched for free download.

The office takes aerial photography of Hong Kong at different altitudes periodically using a large-format digital aerial camera system that in 2017 replaced the film aerial camera, in use for over 20 years. The new equipment can capture data of multiple spectrums and is used for topographic mapping, emergency survey, evidence gathering, planning and prediction purposes, tree health management and other infrastructure projects.

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 2017, the department issued 42,607 statutory notices to 891 buildings under these schemes. It also received 126,504 minor works submissions to carry out works through simplified statutory procedures in existing buildings.

The Buildings Department, URA and Hong Kong Housing Society help building owners carry out repairs and maintenance. In 2017, subsidies and loans exceeding \$402 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. The technical help includes providing a DIY toolkit to guide owners in organising the works, engaging an adviser to offer them independent advice on the scope and estimated cost for reference, and setting up an electronic tendering platform for them to hire contractors in a relatively independent environment. In 2017, the government committed \$300 million to enable eligible building owners to participate in the scheme at a concessionary rate.

To address hazards caused by old and dilapidated buildings, the government plans to launch Operation Building Bright 2.0 at an estimated cost of \$3 billion. The operation will focus on needy groups and provide substantial financial help to them for carrying out rehabilitation works pertinent to building safety. Subject to funding availability, the government plans to implement the operation in mid-2018.

On enforcement, the Buildings Department takes continuous action against unauthorised building works (UBWs), including carrying out large-scale operations on unauthorised signboards at target streets and applying for priority demolition orders against large unauthorised signboards. It takes priority enforcement against UBWs that are new or under construction; constitute an obvious hazard or imminent danger to life or property, for example, by creating a high risk of fire or to a building's structural safety, including UBWs associated with subdivided units; or are found in New Territories Exempted Houses. UBWs erected on building exteriors, including rooftops, podiums and yards, are removed in an ongoing manner. In 2017, the department served 13,182 statutory removal orders and removed 27,683 UBWs. It also instigated 3,369 prosecution cases and secured 2,315 convictions in court for failure to comply with the orders, resulting in fines totalling \$13.97 million. A publicity campaign by the department continued to foster a culture of building safety in the community.

Lifts and Escalators

The government implements long-term improvement measures to enhance the safety of lifts and escalators, including strengthening inspections, promoting modernisation of aged lifts and escalators, and releasing for public reference lift maintenance prices for private residential and commercial premises.

Greening, Landscape and Tree Management

The Greening, Landscape and Tree Management Section aims to invigorate the outdoor urban environment, enhance liveability and foster a sense of place towards Hong Kong's urban landscape. Its four priority areas are in promoting resilient and adaptive landscapes, enriching vegetation diversity, applying robust urban forestry principles, and enhancing blue and green eco-service networks.

The section promotes the principle of 'Right Tree, Right Place' and adopts a holistic approach to urban landscapes through quality landscape planning and design and diligent landscape management, supported by the life-cycle planning of trees as key urban forestry assets in the compact city of Hong Kong.

Guidelines are issued on proper urban arboricultural practices in tree risk assessment, management and maintenance for public safety, and are enforced under a broader sustainable urban forestry strategy.

The section also works to structure the education and practices of the arboriculture and horticulture industry and raise the industry's professional standing. In 2017, it helped form the Horticulture and Arboriculture Trade Confederation to facilitate industry communication and assisted the Arboriculture and Horticulture Industry Training Advisory Committee in developing a Specification of Competency Standards for the landscape industry.

Infrastructure

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 \$85 billion in 2016-17. The annual expenditure is expected to stay at a high level for the next few years.

Project Cost Management

The Project Cost Management Office devises and implements measures to manage the costs of public works, promote cost management to the private construction sector and enhance project management performance to ensure project completion on time, within budget and according to the required quality and functionalities. The office also seeks to introduce innovative construction methods and advanced technologies, such as modular integrated construction, to the industry to enhance productivity and cost-effectiveness.

Drainage Services

The Drainage Services Department manages 2,751km 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 2017 cost an estimated \$25 billion.

The Happy Valley Underground Stormwater Storage Scheme came into full operation in March 2017, greatly enhancing the flood protection capability in Happy Valley and Wan Chai. Kai Tak River improvement works will be completed in 2018 to reduce further the risk of flooding while revitalising and beautifying the river, turning the drainage facility into a green corridor.

The department inspects, de-silts and repairs drainage systems regularly. In 2017, it inspected 2,277km and de-silted 745km of drains and watercourses at a cost of about \$148 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 \$1.05 billion in 2017 to upgrade 155 substandard government man-made slopes and to mitigate the landslide risk of 49 natural hillside catchments. It also conducted safety screening studies on 100 private man-made slopes.

Drinking Water Safety

To safeguard the safety of drinking water holistically, the government announced in September an Action Plan for Enhancing Drinking Water Safety in Hong Kong, which comprises five components: drinking water standards and an enhanced water quality monitoring programme;

plumbing material control and commissioning requirements for new plumbing installations; water safety plans; publicity and public education; and a water safety regulatory regime.

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. About 651 million cubic metres of Dongjiang water was imported in 2017.

Water Storage and Consumption

Full supply was maintained throughout the year, during which the territory recorded 2,572mm of rainfall. Storage reservoirs held some 400 million cubic metres of water at the end of 2017.

There were about three million water consumer accounts as at the year end. Some 980 million cubic metres of fresh water was consumed in 2017, with an average daily supply of about 2.68 million cubic metres. Another 278 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 that has been extended to kindergartens on a pilot basis, 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 2017, design of the first stage of a desalination plant in Tseung Kwan O continued. Infrastructural works to supply reclaimed water to the northeastern New Territories for non-potable uses started in April. The finance and legal framework on the supply of reclaimed water is being developed.

Water Works

The expansion of Tai Po Water Treatment Works and its ancillary water transfer facilities, as well as advance works for the in situ reprovisioning of the south works of Sha Tin Water Treatment Works, are targeted for completion in 2018.

Construction Industry

Construction Industry Council

The Construction Industry Council supports the development of the construction industry, in particular by training construction workers. In 2017, the council enhanced its training courses, upgraded the skills of workers including ethnic minorities, and stepped up publicity to attract new blood. It will set up a Hong Kong Institute of Construction to train more high-calibre and professional construction practitioners and provide them with clear career paths.

In April, the Designated Workers for Designated Skills requirement under the Construction Workers Registration Ordinance took effect. Skilled works on construction sites must be carried out by registered skilled or semi-skilled workers of the relevant trade.

In September, the council launched a construction worker registration system in all construction sites to enhance accuracy and efficiency in the submission of construction workers' daily attendance records, generating useful data for informed decision making.

The council's Construction Innovation and Technology Application Centre opened in November to boost construction productivity, enhance the industry's image, improve the well-being of practitioners and attract capable recruits.

During the year, the council also developed standards, published guidelines and organised a conference to help the industry adopt building information modelling, which the government planned to use in major public works projects from 2018.

Promotion of Professional Services

A new Agreement on Economic and Technical Cooperation was signed in June under the Mainland and Hong Kong Closer Economic Partnership Arrangement (CEPA). It 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.

During the year, the Qianhai Authority selected a second pilot project to reinforce its commitment to implementing Hong Kong's project management system, and incorporated building surveying and landscape architectural disciplines in a Hong Kong company register on top of the existing architectural, building services, quantity surveying and structural engineering disciplines. Companies listed in the register may provide professional services for projects funded principally by Hong Kong enterprises.

In August, the Development Bureau and the Hengqin Management Committee signed a cooperation agreement modelled on the Qianhai agreement to implement cooperation and liberalisation measures in Hengqin. The bureau is looking to extend the facilitation measures to Nansha and to continue dialogue with Mainland authorities to advance and broaden mutual recognition of professional qualifications between the two sides.

Website

Development Bureau: www.devb.gov.hk