To cater for long-term traffic demand growth and fully capture the business potential of the Greater Bay Area (GBA) for our Airport City vision, Hong Kong International Airport (HKIA) has worked diligently to increase capacity and functionality through a series of development projects, including:

a) The Three-runway System (3RS)

b) Enhancing the Two-runway System (2RS)

c) Expansion of terminal and apron capacity

d) SKYCITY

e) AsiaWorld-Expo development

f) Topside development at the Hong Kong Boundary Crossing Facilities (HKBCF)

Some of the above projects help increase airport capacity through additional physical facilities and new infrastructure such as the 3RS, while others are about enhancing the handling capacity of the existing facilities through technological applications and process re-engineering. The enhancement of the existing two runways is an example. In parallel and equally important are the functional enhancements that are novel, integral parts of the Airport City fabric – SKYCITY and the development of AsiaWorld-Expo. There are also new land use opportunities that may add to the airport’s capacity and functionality.

These projects are all components of the Airport City, and are organically related and poised to create synergistic impact not only on the airport island, but far beyond – contributing to the wider economy in Hong Kong and the GBA.
To cater for long-term traffic demand growth and fully capture the business potential of the GBA for our Airport City vision, HKIA has worked diligently to increase capacity and functionality through a series of development projects.
Chapter 4: Airport City Capacity and Functionality

Expansion of Capacity

Developing the Three-runway System

The commissioning of the 3RS, scheduled for 2024, will enable HKIA to substantially increase its handling capacity, which is essential for the development of the Airport City.

The 3RS project includes seven core components, including the formation of approximately 650 hectares of land; construction of the Third Runway and the associated taxiways and apron; construction of a new passenger building; expansion of the existing Terminal 2 (T2) that will offer full-fledged terminal services; building a new automated people mover system; a new high-speed baggage handling system; and the construction of airport support infrastructure, utilities and facilities.

Different components of the Airport City are organically related and poised to create synergistic impact not only on the airport island, but far beyond.

The expanded T2 under the 3RS will offer full-fledged passenger services.
Upon the commissioning of the 3RS, HKIA will be able to serve initially an additional 30 million passengers annually, with capacity for further expansion.

Enhancing the Two-runway System

Prior to commissioning of the 3RS, it is imperative to enhance capacity of the existing 2RS to meet growth in demand before 2024.

Various measures have been taken to optimise runway use. For example, advanced technologies have been deployed to boost runway maintenance efficiency, reducing the night-time maintenance period by 30 minutes and opening up more takeoff and landing slots while maintaining the same safety standards.

A programme has also been launched to encourage airlines to deploy quieter aircraft late at night and early in the morning, thereby maximising runway utilisation while managing the total noise level of aircraft operation to and from HKIA.

In addition, with improved technology, the arrival and departure capacity of the airport can be safely increased by implementing re-categorisation of aircraft wake turbulence (RECAT), i.e. redefining the wake turbulence categorisation of aircraft to reduce the minimum spacing between aircraft on final approach. The European experience indicated that RECAT can boost the runway throughput by up to 5% during peak traffic periods.

Technical studies are being undertaken for the development and deployment of RECAT at HKIA. The successful implementation of the technology would further enhance the capacity of the 2RS marginally and the future 3RS.
Expansion of Terminal and Apron Capacity

In addition to addressing runway capacity, a number of projects are being undertaken to ensure the airport maintains high service quality and comfort levels amidst growing passenger volume.

Terminal 1 Annex Building

A new annex building is being constructed to the north of the existing Terminal 1 (T1), and is targeted for completion in 2019. Over 40 new check-in counters with self-bag drop facilities and two additional baggage reclaim carousels will be installed. The existing Arrivals Hall will also be expanded to offer a more spacious and comfortable environment.

The Midfield Apron Development

The Midfield Apron Development Phase 1 was commissioned in March 2016 and increased HKIA’s handling capacity by 10 million passengers per annum. The remaining Midfield Apron Development is under way. Upon completion (in phases until 2020), the total number of parking stands at HKIA will increase from 191 to 215, providing the necessary capacity to cope with anticipated increases in air traffic during the remaining years of the 2RS.

Enhancing Business Aviation Facilities

As an international aviation hub, it is important for HKIA to have quality facilities for business aviation, as part of our overall support to Hong Kong and the region’s economic development. Business aviation is essential for Hong Kong in maintaining and further strengthening its position as the region’s premier centre for global businesses to set up regional headquarters.

In recent years, nearly 7,000 flights are being served annually by the Hong Kong Business Aviation Centre (HKBAC). To cater for the needs of the business aviation sector, Airport Authority Hong Kong (AAHK) will work with the HKBAC to study how its facilities can be further enhanced to provide a better passenger experience and service to the international business community.
Expansion of Functionality

SKYCITY – A Vibrant Lifestyle Hub

A core element of HKIA Airport City is SKYCITY: one of the largest commercial developments in Hong Kong that will provide a full suite of retail, food and beverage and entertainment facilities, hotels and offices. It will cater to the increased passenger volume brought by the 3RS and a number of infrastructure projects connecting to the airport, such as the Tuen Mun-Chek Lap Kok Link and the Hong Kong-Zhuhai-Macao Bridge (HZMB).

The vision behind SKYCITY is to create a new destination for the GBA that goes beyond the traditional notion of a shopping mall. This new development aims to capture broad opportunities in tourism and business, while providing a dynamic lifestyle attraction and family entertainment hub. SKYCITY is expected to become a destination of its own – for local residents, as well as visitors from overseas and the GBA.

The 25-hectare SKYCITY development is located just a short stroll from HKIA and is conveniently accessible by rail, road and a network of footbridges.

A hotel and an integrated retail, dining, and entertainment (RDE) complex of approximately 383,000 square metres, will be completed in stages between 2020 and 2027.

The hotel development occupies a site area of approximately 6,650 square metres and permissible floor area of up to 33,700 square metres. The contract for the hotel development was awarded in February 2017. Over 1,000 guest rooms and suites as well as ancillary facilities will be built, and the development is expected to be completed in 2020/21.

The RDE complex, on the other hand, will take up a maximum gross floor area of 350,000 square metres. The development contract was awarded in May 2018 and the project is expected to be completed in phases from 2023 to 2027. Upon completion, the RDE in SKYCITY will be the largest facility of its kind in Hong Kong. It will surpass conventional upmarket shopping malls by leveraging state-of-the-art technology and creativity to develop unique dining, entertainment and retail services that combine experiences in learning, exploration and adventure.
Future phases of SKYCITY will be developed progressively. When completed, SKYCITY will realise the full potential of the synergy with the newly expanded airport and the HZMB. It will also be able to take advantage of the development of AsiaWorld-Expo, which is in close proximity and an important venue for conventions, exhibitions, and sports and entertainment events. SKYCITY will also complement other tourist attractions in Lantau – such as Hong Kong Disneyland, Ngong Ping 360 and the Big Buddha – making Lantau an even more attractive destination in its own right.

**AsiaWorld-Expo Development**

HKIA is home to a wide range of entertainment, sporting and MICE events, with AsiaWorld-Expo within walking distance of the passenger terminals.

Owned by the Hong Kong Government and AAHK, AsiaWorld-Expo is a world-class exhibition, convention, concert, sports and entertainment venue offering over 70,000 square metres of rentable space. The venue features 10 exhibition halls including the purpose-built AsiaWorld-Expo Arena, Hong Kong’s largest and most versatile indoor arena with 14,000 seats. Over the years, this venue has hosted large-scale trade fairs, high-level conferences, chart-topping concerts and international sports events.

AAHK, which also fully owns the management company of AsiaWorld-Expo, is exploring its next phase of development to meet growing demand for high-profile and consumer-oriented events. AsiaWorld-Expo will benefit from strong synergies with SKYCITY and the expanded airport, as well as other developments in the vicinity – including the extension of Tung Chung New Town and the HZMB.
New Land Use Opportunities

Topside Development at the Hong Kong Boundary Crossing Facilities

The world’s longest bridge-and-tunnel sea-crossing, the 55-km HZMB commenced operation in October 2018, helping to shorten trips between HKIA and Zhuhai from four hours to just 45 minutes.

As part of the HZMB, the HKBCF, located on a 150-hectare artificial island, provides clearance facilities for passengers and vehicles using the bridge. In addition to that, the HKBCF island has the potential to develop other uses on its topside to optimise the use of valuable land resources. Invited by the Government, AAHK will conduct a detailed study on airport-related development at the HKBCF, taking into account the needs for airport-related operations, requirements from the Government, and developments in the vicinity. The topside development will have the potential to further enhance HKIA’s functionality and competitiveness.