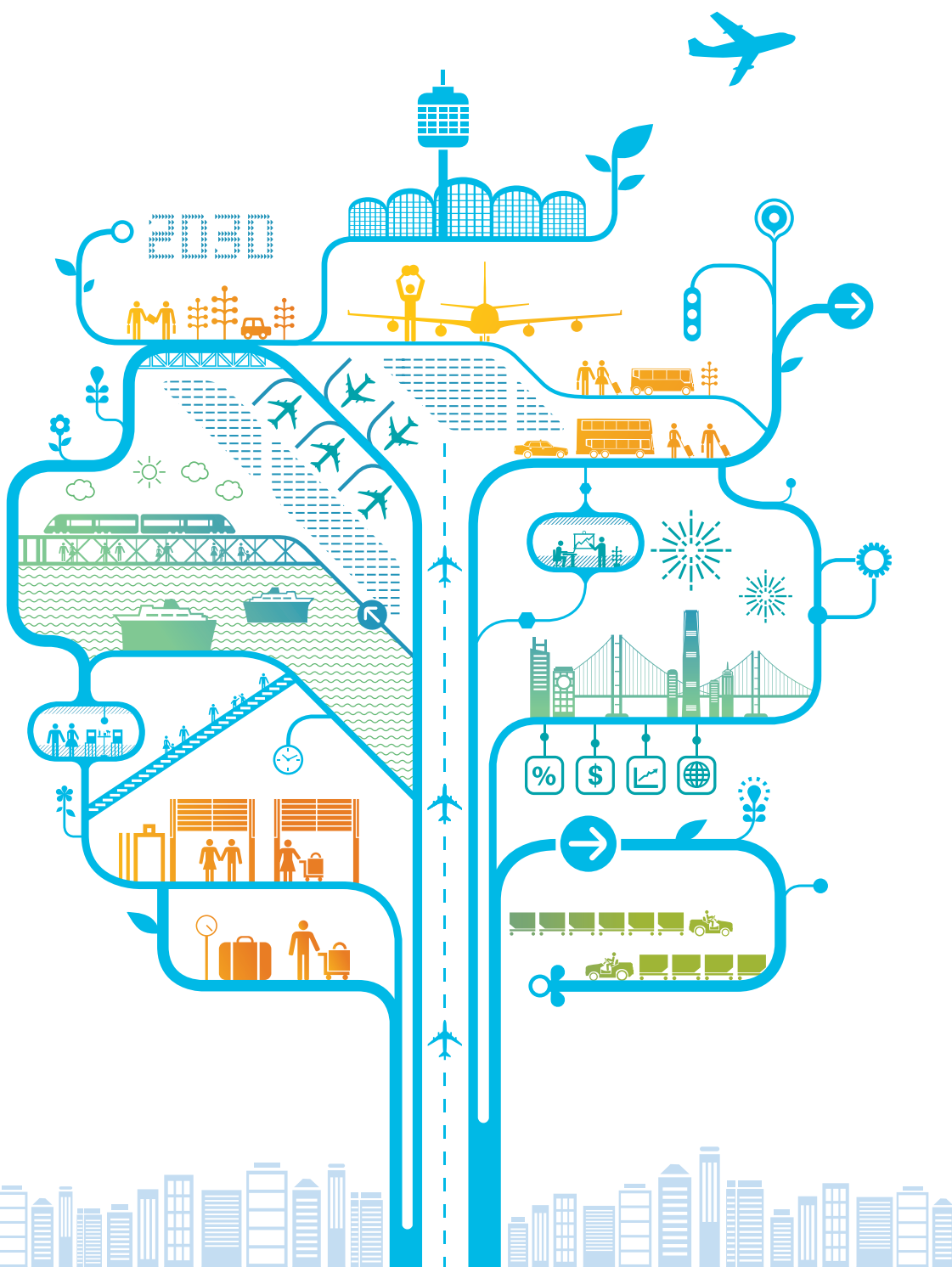


# OUR AIRPORT OUR FUTURE



## HONG KONG INTERNATIONAL AIRPORT MASTER PLAN 2030

### SUMMARY



# HKIA – AN INTERNATIONAL AVIATION HUB AND ENGINE OF ECONOMIC GROWTH

Since its opening in 1998, Hong Kong International Airport (HKIA) has grown to be one of the finest and busiest airports in the world. In 1998, the airport handled 28.6 million passengers and 1.6 million tonnes of cargo, with 450 air traffic movements (ATMs, also known as flight movements) per day to about 120 destinations. The level of throughput has experienced remarkable growth to reach 50.9 million passengers and 4.1 million tonnes of cargo in 2010. Currently, over 95 airlines provide services between Hong Kong and about 160 destinations worldwide, operating more than 850 ATMs per day. Renowned for its inspiring architectural design, superb efficiency, superior service quality and unrivalled connectivity, HKIA has received close to 40 world's best airport awards to date. To many, **HKIA is the crown jewel of Hong Kong – the pride of Hong Kong.**





HKIA is not merely a piece of transport infrastructure that serves the local travelling public. It is **an international aviation hub that generates enormous economic value for Hong Kong**. The current employment on the airport island is about 65,000 people. The economic contribution generated by Hong Kong's aviation industry in 2008 amounted to HK\$78 billion in value added<sup>1</sup>, or 4.6% of Hong Kong's gross domestic product (GDP). More importantly, the four economic pillars of Hong Kong – financial services, trading and logistics, tourism, and producer and professional services (together constituting 57% of our GDP) – rely heavily upon the efficient flow of people and goods made possible by HKIA.



Hong Kong also has significant functions and positioning in the national development strategy, as elaborated in “The Outline of the 12th Five-Year Plan for National Economic and Social Development of the People’s Republic of China” (the National 12-5 Plan), which was promulgated in March 2011. The National 12-5 Plan sets out the Central Authorities’ support for Hong Kong to consolidate and enhance its competitive advantages (including consolidating and enhancing Hong Kong’s status as an international centre for financial services, trade and shipping), to nurture its emerging industries and develop the six industries where Hong Kong enjoys clear advantages, and to deepen economic co-operation with the Mainland.

<sup>1</sup> “Value added” is defined as the value of gross output less the value of intermediate consumption (the value of goods and services used up in the course of production). The value added figure quoted here is assessed by an independent consultant and includes direct, indirect and induced contribution.

# AIR CONNECTIVITY: THE KEY TO HONG KONG'S COMPETITIVENESS

**Air Connectivity** – the ability to reach a wide range of places in the shortest time span – facilitates international trade, foreign investment and stimulates innovative activity, all of which underpin the competitiveness of our economy. There are thousands of airports around the world, big and small, but **international businesses tend to cluster around the “hubs” with the best connectivity.** These hubs enable people to travel most conveniently when the need arises and facilitate the most efficient processing of high value-added services, as well as just-in-time delivery of goods to the farthest corners of the world.



Being an international aviation hub, **HKIA is the lynchpin of Hong Kong's global connectivity** and crucial to maintaining Hong Kong as an international business centre and Asia's World City. Our hub operation increases the number of destinations served as well as the frequency of flight movements on each route. It also offers more choices and greater convenience to travellers at more market-competitive prices. From the wider perspective, it drives our productivity and efficiency and creates the necessary environment for Hong Kong's economy to continue to grow. The better Hong Kong is connected to the world, the more we stand to gain across different sectors of our economy.





# FAST GROWING AVIATION MARKET IN THE REGION

Between 2008 and 2030, the global GDP is forecast to grow at a compound annual growth rate (CAGR) of 4% and the Mainland GDP growth at an even higher rate of 7%. The aviation market is also expected to grow robustly in the light of rising demand for air travel.

**Many airports in this region are responding by mapping out plans to enhance their facilities** as set out in Figure 1.

FIGURE 1: PLANNED DEVELOPMENTS OF AIRPORTS IN THE REGION

AIRPORT	EXISTING NUMBER OF RUNWAYS	PLANNED NUMBER OF RUNWAYS
Beijing Capital	3	Planning to build a second international airport
Guangzhou Baiyun	2	To be increased to 5
Shanghai Pudong	3	To be increased to 5
Shenzhen Bao'an	1	2 in 2011, to be increased to 3
Bangkok Suvarnabhumi	2	3 by 2016
Seoul Incheon	3	5 by 2020

Note: Based on publicly available information.

HKIA's remarkable traffic performance in 2010 represents enormous growth since the Kai Tak days but the airport is approaching its practical maximum runway capacity. Between 2008 and 2030, Hong Kong's GDP is forecast to grow at a CAGR of 3.2%. We expect **air traffic demand to reach about 97 million passengers, 8.9 million tonnes of cargo and 602,000 flight movements per year by 2030**. Such a demand is way beyond the runway capacity of HKIA's existing two-runway system. We therefore need to expand our capacity in order to maintain the growth of our hub airport.

# THE NEED TO PLAN AHEAD



**Airport development is capital investment-intensive and requires long lead time with considerable advance planning.**

Building around a “live” airport environment also imposes added challenges. In view of the impending “capacity crunch”, we must act promptly to map out the future development strategy for HKIA. Through the preparation of a 20-year Master Plan, which is reviewed and updated every five years, we aim to set out the strategic direction of the future development of the airport.



**97** MILLION passengers

**8.9** MILLION tonnes of cargo  
are expected in 2030

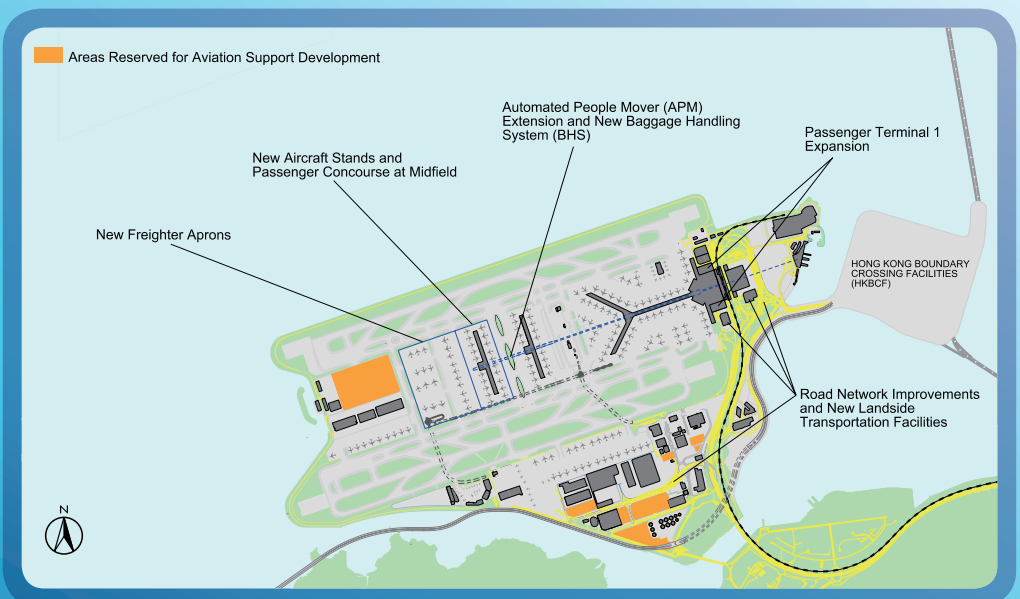


# HKIA MASTER PLAN 2030 – TWO OPTIONS TO CONSIDER

The preparation of the Master Plan 2030 began in 2008. To ensure **a transparent, professional and unbiased planning process**, we have commissioned nine independent consultants – experts in their respective fields – to research into different strategic aspects of airport development such as air traffic forecasts, economic impact, preliminary engineering feasibility and environmental assessment to cover broadly all the key areas required for making an informed recommendation on HKIA’s future development strategy. In summary, we have examined two different options –

## ▶ **OPTION 1: MAINTAINING THE EXISTING TWO-RUNWAY SYSTEM**

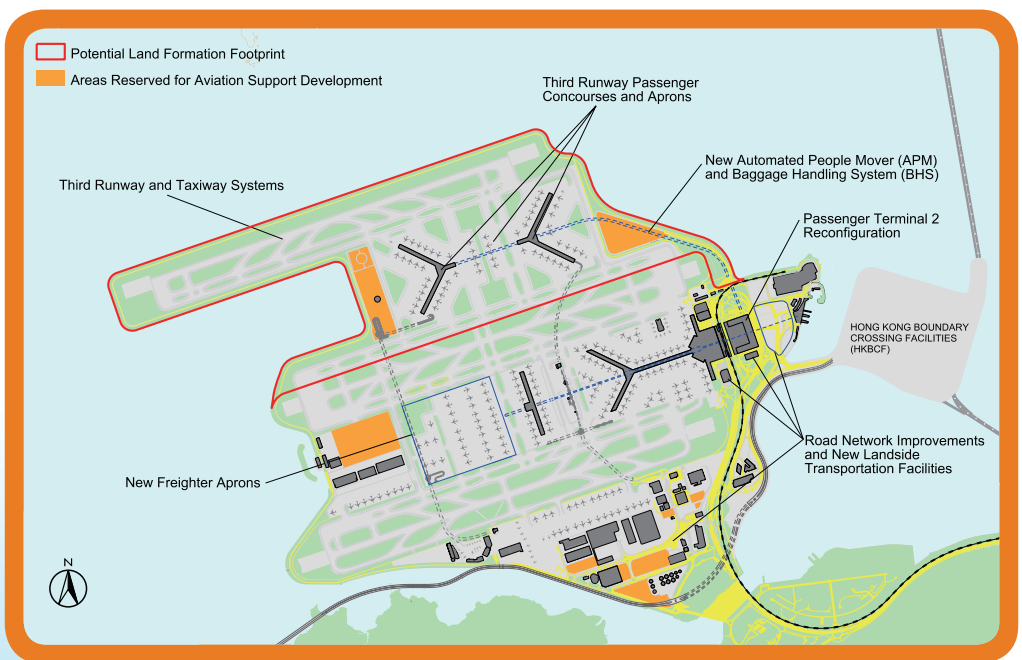
This option maintains the existing two-runway system but requires further investment in terminal and apron facilities (e.g. passenger concourse, automated people mover, baggage handling system and internal road infrastructure). At a total cost of **about HK\$23.4 billion (in 2010 dollars)** or HK\$42.5 billion (at money-of-the-day [MOD] prices) for phased development between 2016 and 2030, this would enable HKIA to handle **a practical maximum capacity of 420,000 flight movements per year. However, this option can only meet the estimated demand for air services in the medium term and will reach its runway capacity sometime between 2019 and 2022.** Beyond that, HKIA will have no capacity to accommodate any additional flight movements.





## ► **OPTION 2: EXPANDING INTO A THREE-RUNWAY SYSTEM**

This option involves a major investment of **about HK\$86.2 billion (in 2010 dollars)** or HK\$136.2 billion (at MOD prices) on phased developments between 2016 and 2030 to build a third runway and its associated terminal, airfield and apron facilities (e.g. passenger concourses, automated people mover, baggage handling system and internal road infrastructure). This requires a **reclamation of about 650 hectares**. **With the third runway, HKIA would be able to handle a practical maximum capacity of 620,000 flight movements per year**. Critically, **this would meet our unconstrained traffic demand and maintain our superior connectivity up to and possibly beyond 2030**. Under this option, we need to fully address a whole host of engineering, funding and environmental issues; for instance, the environmental impact on marine ecology, the natural habitat of Chinese White Dolphins, noise and air quality.



We have comprehensively evaluated both options against a full spectrum of considerations such as air connectivity, economic benefits, engineering feasibility, environmental issues and funding. The two options represent very different approaches towards how we view the economic significance of HKIA. **Option 1 can only meet our short to medium term needs, whereas Option 2 can meet our long-term needs and fully leverage HKIA's connectivity to take Hong Kong's economic development to the next level.**

In terms of the economic value to Hong Kong, Option 2 makes a much greater contribution than Option 1. The economic net present value (ENPV)<sup>2</sup> over a 50-year life span of the infrastructure (up to 2061) resulting from Option 1 is estimated to be HK\$432 billion; whereas the ENPV resulting from Option 2 is estimated to be HK\$912 billion. Option 2 will increase the direct employment on the airport island to 141,000 jobs by 2030, much higher than 101,000 jobs under Option 1.

**Adopting Option 1 now and then reverting to Option 2 at a later stage is not a viable proposition.** Firstly, it would be very wasteful as part of the infrastructure built under Option 1 would have to be taken down to make way for a different airport layout under Option 2. Secondly, due to the long lead time required to implement Option 2, any substantial delay in implementing that option will mean that the capacity of HKIA would be exhausted before the third runway is built. During that period, traffic may be lost to other airports with increasing connectivity and, once lost, would be hard to regain. It is in the best interest of Hong Kong to ensure that sufficient capacity at HKIA is developed in time to cater for the anticipated demand.

In summary, **only Option 2 can meet the long-term needs of Hong Kong up to and possibly beyond 2030.** It is the only option that allows our aviation network to continue to grow without constraints and the enhanced connectivity would continue to support Hong Kong's overall competitiveness. We acknowledge the challenges of addressing the associated environmental concerns. This will be followed up in the future statutory environmental impact assessment (EIA) process. Development proposals arising from the Master Plan 2030 must comply with the EIA process mandated by the statutory regulatory regime at the time.

FIGURE 2: ANNUAL FLIGHT MOVEMENT DEMAND AND CAPACITY ANALYSIS

	KAI TAK IN 1997 (ONE RUNWAY)	HKIA IN 2010 (TWO RUNWAYS)	HKIA IN 2030	
			OPTION 1 (TWO RUNWAYS)	OPTION 2 (THREE RUNWAYS)
Flight movement demand forecast	–	–	602,000	
Runway design capacity	180,000	360,000	420,000	620,000
Flight movements handled	165,000	306,500	–	–
Capacity surplus/ (shortfall)	–	53,500	(182,000)	18,000

<sup>2</sup> ENPV refers to the difference between the present value of the future economic benefits from an investment and the present value of the investment amount.

# CONSEQUENCES OF RUNNING OUT OF CAPACITY

Over the years, the growth in traffic flowing through HKIA has resulted in our airport becoming the busiest aviation hub in the Asia Pacific region. This has brought us convenience of travel and significant economic benefits. If HKIA runs out of capacity, there would be serious adverse consequences for Hong Kong –

(a) Once all runway slots are taken up, any new flight movement will only be possible as a substitute for an existing flight. Airlines would possibly concentrate on the more lucrative routes at the expense of less profitable routes, resulting in **fewer destinations being served, less competition on each route, longer transit time and delays, and higher prices for travellers;** and

(b) Our hard-earned aviation network, and thus our connectivity, would inevitably shrink as a result. **The growth of our hub airport will be inhibited and the economic and other benefits for Hong Kong associated with that potential growth will be lost.**

Although there are four other airports within the Greater Pearl River Delta (GPRD), we cannot rely on them to fulfil our needs because –

- (a) Air services to and from an airport are regulated by individual jurisdiction and governed internationally through a network of bilateral air services agreements. Therefore, flight movements that we cannot accommodate due to capacity constraints cannot be funnelled to other airports purely based on demand or at our wishes;
- (b) It would not be in the interest of most passengers who would likely find using or transferring through another airport highly inconvenient; and
- (c) Most importantly, relying on other airports to meet our demand would inhibit the growth of our hub airport and thus adversely affect Hong Kong's overall competitiveness as a world city.

# FUNDING

Airport Authority Hong Kong (AAHK) conducts its business strictly in accordance with prudent commercial principles. Since the opening of HKIA in 1998, we have invested about HK\$18 billion in expanding and upgrading the airport infrastructure and returned another HK\$19 billion to the Government in the form of dividends and capital returned.

The cost of implementing the Master Plan 2030 under **either of the two options would result in a funding gap**. This is because the amount of capital expenditure required under both options will exceed the prudent borrowing capacity of AAHK as assessed by an independent financial advisor and the internal cashflows of AAHK after payment of dividends. Subject to views gauged on the way forward for the Master Plan 2030, **further discussion on how best to bridge this funding gap between AAHK and the Government would be necessary**.

# THE TIME TO ACT IS NOW

The time for making a decision is running short. Air traffic is growing every day and HKIA will soon reach its capacity limits. **Both options require a long lead time** for conducting further detailed studies and obtaining the necessary regulatory approvals before works can commence. Option 2, in particular, requires a construction lead time of about 10 years.

With economic activities forecast to grow at a rapid rate in the Greater China region, Hong Kong stands to benefit from the rise in demand for aviation services. An expanded HKIA is the key. If we are to seize this golden opportunity to create a wealth of new benefits for Hong Kong and retain its position as the premier international aviation hub, **the time to act is now**.



For more details, please visit [www.hkairport2030.com](http://www.hkairport2030.com)