

# 立法會

## *Legislative Council*

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### **Panel on Economic Development Meeting on 26 March 2012**

### **Background brief on the development of a third runway at the Hong Kong International Airport**

#### **Purpose**

This paper provides background information on the development of the third runway at the Hong Kong International Airport ("HKIA") under the HKIA Master Plan 2030 Study ("HKIA 2030 Study") commissioned by the Airport Authority Hong Kong ("AA"), and summarizes concerns and views expressed by Legislative Council Members on the subject.

#### **Background**

2. Opening in July 1998, HKIA with two runways was projected to be able to cope with the air traffic demand through the years up to 2010 and beyond. In view of the annual growth in passenger traffic and freight cargo, AA has in recent years put forth its short-term projects including Terminal 2 commissioned in June 2007, and the new SkyPier cross-boundary ferry terminal and the North Satellite Concourse which entered service in January 2010.

3. In 2011, 53.9 million<sup>1</sup> passengers used HKIA and some 3.9 million tonnes of air cargo passed through Hong Kong. HKIA is connected to about 160 destinations, including around 40 in the Mainland, through about 900 daily flights by over 100 airlines.

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<sup>1</sup> Source: Website of AA <http://www.hongkongairport.com/eng/business/about-the-airport/welcome.html>

### The need to build a third runway

4. HKIA 2025, released in December 2006, estimated that HKIA would serve close to 80 million passengers, handle 8 million tonnes of cargo and 490 000 air traffic movements ("ATMs") per year by 2025. On 22 January 2007, AA briefed the then Panel on Economic Services<sup>2</sup> on the SkyCity development project covered in HKIA 2025 which indicated that AA would work with the Civil Aviation Department ("CAD") to assess the feasibility of a third runway and conduct relevant feasibility studies.

5. In response to increasing calls for enhancing HKIA's runway capacity to cope with the rapid growth in air traffic volume, CAD and AA commissioned a consultancy study on Hong Kong airspace and runway capacity in July 2007<sup>3</sup>. The study, which was completed in December 2007, recommended a total of 46 measures for enhancing the capacity of the existing two runways. With the successful implementation of the measures, the maximum runway capacity of the existing two runways could gradually reach 68 ATMs per hour by 2015. To achieve this, CAD would reform its existing air traffic control ("ATC") philosophy, improve the flight procedures and operations, and review its ATC-related manpower resources. CAD would also continue to liaise with the Civil Aviation Administration of China ("CAAC") and the Macao Civil Aviation Authority ("CAAM") to enhance the Pearl River Delta ("PRD") airspace. The tripartite working group has been working with a view to improving the use of airspace and the co-ordination of air traffic management in PRD region.

6. To cope with air traffic demand up to 2020, AA is taking forward a midfield expansion project to provide a Midfield Concourse, additional aircraft stands and apron facilities, which will maximize the use of the two existing runways and increase the handling capacity of the airport to 70 million passengers and 6 million tonnes of cargo. Phase I works have commenced in the third quarter of 2011 for completion at the end of 2015.

7. To enhance runway capacity in the longer term, AA commissioned HKIA 2030 Study in July 2008 to review the infrastructural development needs of the airport up to 2030. AA also commissioned a study on the engineering and environmental feasibility of the three-runway proposal.

8. After three years of study and review by AA management and its consultants, with inputs from professionals of the airport community, two

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<sup>2</sup> The Panel on Economic Services was renamed as the Panel on Economic Development with effect from the 2007-2008 session.

<sup>3</sup> CAD and AA commissioned the National Air Traffic Services of the United Kingdom to study the Hong Kong airspace and runway capacity in July 2007.

different development options for HKIA's future expansion were proposed in HKIA Master Plan 2030 which was released on 2 June 2011 for public consultation until 2 September 2011. The first option maintains the existing two-runway system but makes enhancements to the terminal and apron facilities to increase HKIA's capacity. However, this option can only meet the estimated air traffic demand in the medium term, and HKIA will reach its maximum runway capacity sometime around 2020. The second option envisages the building of a third runway and its associated terminal, airfield and apron facilities, which requires the reclamation of about 650 hectares of land north of the existing airport island. This option will enable HKIA to meet forecast traffic demand and maintain its extensive air network and connectivity up to and possibly beyond 2030. A comparison of the two options is in the **Appendix**.

### **Members' views on the proposed third runway**

#### *Motions moved at Council meetings*

9. Hon CHAN Kam-lam moved a motion at the Council meeting on 6 December 2006 on "Strengthening Hong Kong's capability in immediate transshipment", urging the Government to, inter alia, augment the throughput of immediate transshipment, such as expeditiously constructing the third runway at HKIA. The motion as amended by Hon SIN Chung-kai was passed.

10. Hon Mrs Sophie LEUNG moved a motion at the Council meeting on 24 June 2009 on "Seizing the chance to turn the risks from the 'Three Direct Links' across the Taiwan Strait into opportunities", urging the Government to, inter alia, study the construction of the third runway for HKIA. The motion as amended by Hon Tommy CHEUNG, Hon IP Wai-ming, Hon WONG Ting-kwong and Dr Hon Priscilla LEUNG was passed.

11. Hon IP Kwok-him moved a motion at the Council meeting on 30 March 2011 on "Implementing the Twelfth Five-Year Plan", urging the Government to, inter alia, expeditiously study and implement the construction of a third runway to consolidate and enhance Hong Kong's status as an aviation centre. The motion as amended by Hon Miriam LAU was passed.

#### *Questions raised at Council meetings*

12. Hon Albert CHAN raised a written question on HKIA Master Plan 2030 at the Council meeting on 12 January 2011. He expressed concern on the nuisance caused by aircraft noise upon the construction of the third

runway. The Administration advised that the studies related to HKIA Master Plan 2030 included a preliminary environmental impact assessment ("EIA"), which involved reviewing and updating the Noise Exposure Forecast 25 contours on the basis of the latest airport design capacity.

13. Hon Frederick FUNG raised a written question on HKIA Master Plan 2030 at the Council meeting on 8 June 2011. Whilst expressing concern on the implementation timetable and financial arrangements for the construction of the third runway, he enquired how AA would encompass the diverse views raised during the consultation process and propose measures to reduce the adverse effects of the projects before finalizing the decision. He also urged the authorities to step up communication and consultation on the construction of the third runway with the stakeholders who were critically affected, and avoid possible legal challenges which might arise from errors, slippages and faults in the statutory procedures. The Government indicated that it would carefully consider the recommendation proposed to be submitted by AA at and 2011 with a view to deciding on the next stage of work, including making an in-principle decision on the strategic direction of future airport development, exploring the funding arrangements and pursuing detailed engineering design and statutory EIA.

14. Hon Alan LEONG raised an oral question on HKIA Master Plan 2030 at the Council meeting on 6 July 2011. He was concerned that the proposed third runway may not reach the projected maximum runway capacity due to the restrictions on access to the airspace within the PRD region and the full implementation of the policy on cross-straits direct flights in the near future. The Administration advised that CAD had been discussing with CAAC and CAAM to enhance the PRD airspace. The tripartite working group had reached consensus on the target and measures relating to the planning of the optimization of the PRD airspace structure by 2020. The Mainland's relaxation on individuals' travel to Taiwan and the increase in cross-strait tourism and trade activities were also expected to stimulate further growth in the passenger and cargo market between Hong Kong and Taiwan. The Administration further advised that AA's consultant had comprehensively analyzed the terrain surrounding HKIA, navigation equipment and airspace in accordance with the standards of the International Civil Aviation Organization when assessing the practical maximum runway capacity of the three-runway system.

#### *Discussions at the Panel on Economic Development*

15. When the Administration briefed the Panel on Economic Development ("the Panel") on the consultancy study on Hong Kong airspace and runway capacity at the meeting on 17 March 2008, members considered that construction of a third runway at HKIA would be essential to its future

development and competitiveness, and the Administration should critically examine such need and work out forward-looking plans for the development of HKIA.

16. During the policy briefing on 16 October 2009, Panel members requested the Administration to speed up the feasibility study on building a third runway so that it could be commissioned in a timely manner to cope with the air traffic demand. They considered that the implementation of the third runway would create more job opportunities and benefit the aviation and logistics industries.

17. When the Panel discussed the Framework Agreement on Hong Kong/Guangdong Co-operation in respect of logistics development on 28 June 2010, members again urged the Government to proactively take forward the third runway, and allow adequate time for conducting public consultation and resolving objections, if any, so as to avoid delay in the overall implementation.

18. At the Panel meeting on 10 June 2011, the Administration and AA briefed members on HKIA Master Plan 2030. Panel members in general considered the building of the third runway conducive to maintaining Hong Kong's competitiveness in aviation, tourism, logistics and related sectors, particularly in view of the impending expansion of the airports in the PRD region. However, some members expressed concern about the huge construction cost and its impact on the future airport charges which might undermine the competitiveness of Hong Kong's aviation industry. There was a suggestion of building a shorter runway to economize on the cost. Expressing concern on the environmental impact of the third runway, some members stressed that it was necessary to assess and minimize the cumulative environmental impact, including impact on the habitat of the Chinese White Dolphins ("CWD"), and the noise nuisance and air quality impact arising from the operation of the new runway. Panel members urged AA to maintain on-going dialogue with the environmental concern groups during the consultation and construction processes.

19. At the Panel meeting on 19 July 2011, 90 deputations gave views on HKIA Master Plan 2030. While a majority of the deputations recognized the impending need for expanding HKIA with a third runway to maintain Hong Kong's competitiveness as an aviation hub in the region, there were various concerns on the three-runway option, including PRD airspace issue, capital investment, funding arrangement, environmental impact such as the preservation of CWD and noise nuisance to residential communities in Tuen Mun and Ma Wan. Addressing the grave concerns of members on the adverse impact of the third runway on the environment, the Administration advised that it intended to conduct a statutory EIA after a consensus was

reached in respect of the development option as considerable resources would be required in such process. The Administration and AA were requested to continue exploring the options on reducing aircraft noise to Ma Wan and make available soft copy of the consultants' reports relating to HKIA Master Plan 2030 for the ease of access of the public.

### **Recent developments**

20. During the briefing on the 2011-2012 Policy Address at the Panel meeting on 14 October 2011, the Administration advised that CAD had continued to liaise with CAAC and CAAM to improve the use of airspace and the coordination of air traffic management in the PRD region. A new transfer point was established on 22 September 2011 at the west of Hong Kong for flights overflying the Hong Kong Flight Information Region and entering into the Mainland, so as to alleviate the pressure on the two existing transfer points. The three sides also agreed to further study the enhancements to the planning proposals of the Guangzhou and Southern PRD Terminal Areas. A feasibility study would also be conducted on the use of common standards in the operational environment in the Southern PRD Terminal Area and the implementation arrangements. The Administration would continue to pursue with CAAC the establishment of a new air route to cater for flights between Hong Kong and the eastern part of the Mainland.

21. On 29 December 2011, AA unveiled the public views collected during the consultation period, with 73% of respondents expressing preference for the three-runway option, 11% opting to maintain the two-runway system and 16% remaining neutral. The majority of respondents (80%) agreed or strongly agreed that AA should make a decision urgently on HKIA's future expansion plans, while 6% hold the opposite view. The Board of AA had submitted its recommendation to the Government to adopt, for planning purposes, the three-runway option as the future development option for HKIA. The Board also recommended proceeding with the statutory EIA process and the preparation of associated design details. AA indicated that it would adopt the proposed new Air Quality Objectives as the benchmark for conducting the air quality impact assessment under the EIA studies and ensure full compliance with the prevailing statutory requirements throughout the EIA process.

### **Latest position**

22. The Administration and AA will brief the Panel on 26 March 2012 on the outcome of the consultation on HKIA Master Plan 2030 and the way forward.

## References

23. The relevant papers are available at the following links:

Motion on "Strengthening Hong Kong's capability in immediate transshipment" moved by Hon CHAN Kam-lam at the Council meeting on 6 December 2006 (page 218)

<http://www.legco.gov.hk/yr06-07/english/counmtg/hansard/cm1206-translate-e.pdf>

Information paper provided by the Airport Authority Hong Kong on SkyCity Development at the Hong Kong International Airport

<http://www.legco.gov.hk/yr06-07/english/panels/es/papers/es0122cb1-730-4-e.pdf>

Information paper provided by the Airport Authority Hong Kong and Civil Aviation Department on Development of key aviation support services at the Hong Kong International Airport

<http://www.legco.gov.hk/yr06-07/english/panels/es/papers/es0528cb1-1675-4-e.pdf>

Press release on "Hong Kong International Airport Celebrates the Grand Opening of Terminal 2 and the 10<sup>th</sup> Anniversary of the HKSAR" issued by the Airport Authority Hong Kong on 1 June 2007

[http://www.hongkongairport.com/eng/media/press-releases/pr\\_889.html](http://www.hongkongairport.com/eng/media/press-releases/pr_889.html)

Minutes of Panel meeting on 17 March 2008

<http://www.legco.gov.hk/yr07-08/english/panels/es/minutes/ev080317.pdf>

Administration's paper on consultancy study on Hong Kong airspace and runway capacity

<http://www.legco.gov.hk/yr07-08/english/panels/es/papers/edev0317cb1-1030-5-e.pdf>

Motion on "Seizing the chance to turn the risks from the 'Three Direct Links' across the Taiwan Strait into opportunities" moved by Hon Mrs Sophie LEUNG at the Council meeting on 24 June 2009 (page 278)

<http://www.legco.gov.hk/yr08-09/english/counmtg/hansard/cm0624-translate-e.pdf>

Minutes of Panel special meeting on 16 October 2009 (paragraphs 40-44)

<http://www.legco.gov.hk/yr09-10/english/panels/edev/minutes/edev20091016.pdf>

Press release on "Airport's New SkyPier and North Satellite Concourse Officially Opened" issued by the Airport Authority Hong Kong on 15 January 2010

[http://www.hongkongairport.com/eng/media/press-releases/pr\\_983.html](http://www.hongkongairport.com/eng/media/press-releases/pr_983.html)

Minutes of Panel meeting on 28 June 2010

<http://www.legco.gov.hk/yr09-10/english/panels/eDEV/minutes/eDEV20100628.pdf>

Administration's paper on midfield expansion project of Airport Authority Hong Kong

<http://www.legco.gov.hk/yr09-10/english/panels/eDEV/papers/eDEVcb1-2086-1-e.pdf>

Administration's paper on policy initiatives of the Transport Branch of the Transport and Housing Bureau in the 2010-2011 Policy Agenda

<http://www.legco.gov.hk/yr10-11/english/panels/eDEV/papers/eDEV1015cb1-20-2-e.pdf>

LegCo question on "Hong Kong International Airport Master Plan 2030" raised by Hon Albert CHAN at the Council meeting on 12 January 2011

<http://www.info.gov.hk/gia/general/201101/12/P201101120136.htm>

Motion on "Implementing the Twelfth Five-Year Plan" moved by Hon IP Kwok-him at the Council meeting on 31 March 2011 (page 5)

<http://www.legco.gov.hk/yr10-11/english/counmtg/hansard/cm0331-translate-e.pdf>

"Hong Kong International Airport Master Plan 2030"

<http://www.hkairport2030.com/en/>

LegCo question on "Hong Kong International Airport Master Plan 2030" by Hon Frederick FUNG at the Council meeting on 8 June 2011

<http://www.info.gov.hk/gia/general/201106/08/P201106080081.htm>

Minutes of Panel special meeting on 10 June 2011

<http://www.legco.gov.hk/yr10-11/english/panels/eDEV/minutes/eDEV20110610.pdf>

LegCo question on "Hong Kong International Airport Master Plan 2030" by Hon Alan LEONG at the Council meeting on 6 July 2011

<http://www.info.gov.hk/gia/general/201107/06/P201107060103.htm>

Minutes of Panel meeting on 19 July 2011

<http://www.legco.gov.hk/yr10-11/english/panels/edev/minutes/edev20110719.pdf>

Administration's paper on policy initiatives of the Transport Branch of the Transport and Housing Bureau in the 2011-2012 Policy Agenda

<http://www.legco.gov.hk/yr11-12/english/panels/edev/papers/edev1014cb1-43-2-e.pdf>

Press release on "Airport Authority recommends Government to adopt three-runway option as HKIA's development direction" issued by the Airport Authority Hong Kong on 29 December 2011

<http://www.hkairport2030.com/en/information/press/20111229.html>

Press release on "Airport Authority Hong Kong Welcomes Proposed New Air Quality Objectives" issued by the Airport Authority Hong Kong on 17 January 2012

<http://www.hkairport2030.com/en/information/press/20120117.html>

Council Business Division 1

Legislative Council Secretariat

21 March 2012

## Hong Kong International Airport Master Plan 2030

## Comparison of Two Options†

	<b>Option 1 (Two-runway System)</b>	<b>Option 2 (Three-runway System)</b>
<b>Total Airport Site Area</b>	1,255 hectares	1,905 hectares (with around 650 hectares of newly reclaimed land)
<b>Number of Runways</b>	2	3
<b>Runway Operation Mode</b>	<ul style="list-style-type: none"> <li>Existing North Runway dedicated for “Arrivals” only</li> <li>Existing South Runway dedicated for “Departures” only, except on some occasions where cargo and general aviation flights will be allowed to land on the South Runway</li> </ul>	<ul style="list-style-type: none"> <li>New runway dedicated for “Arrivals” only</li> <li>Existing North Runway dedicated for “Departures” only</li> <li>Existing South Runway for both “Arrivals” and “Departures”</li> </ul>
<b>Runway Capacity</b>	68 flights per hour, which could be translated into a practical maximum capacity of 420,000 flight movements per annum	102 flights per hour, which could be translated into a practical maximum capacity of 620,000 flight movements per annum

\* Source: The Airport Authority Hong Kong

<http://www.hkairport2030.com/en/>

<b>Handling Volume after Development</b>	<ul style="list-style-type: none"> <li>Able to meet forecast air traffic demand up to about 2020 only</li> </ul> <p>Forecast Annual Air Traffic Demand around 2020</p> <table border="1" data-bbox="573 288 1207 408"> <tr> <td>Passengers</td> <td>74 million</td> </tr> <tr> <td>Cargo</td> <td>6 million tonnes</td> </tr> <tr> <td>Air traffic movements</td> <td>420,000</td> </tr> </table>	Passengers	74 million	Cargo	6 million tonnes	Air traffic movements	420,000	<ul style="list-style-type: none"> <li>Able to meet forecast air traffic demand up to 2030 and possibly beyond</li> </ul> <p>Forecast Annual Air Traffic Demand in 2030</p> <table border="1" data-bbox="1350 288 2033 395"> <tr> <td>Passengers</td> <td>97 million</td> </tr> <tr> <td>Cargo</td> <td>8.9 million tonnes</td> </tr> <tr> <td>Air traffic movements</td> <td>602,000</td> </tr> </table>	Passengers	97 million	Cargo	8.9 million tonnes	Air traffic movements	602,000
Passengers	74 million													
Cargo	6 million tonnes													
Air traffic movements	420,000													
Passengers	97 million													
Cargo	8.9 million tonnes													
Air traffic movements	602,000													
<b>Investment Estimation</b>	<p><b>In 2010 dollars:</b> HK\$23.4 billion</p> <p><b>At money-of-the-day prices:</b> HK\$42.5 billion</p>	<p><b>In 2010 dollars:</b> HK\$86.2 billion</p> <p><b>At money-of-the-day prices:</b> HK\$136.2 billion</p>												
<b>Estimated Economic Benefits</b>	<ul style="list-style-type: none"> <li>An Economic Net Present Value (ENPV) of HK\$432 billion (in 2009 dollars) under an assumption of 50-year lifespan of the infrastructure</li> <li>Direct employment reaches 101,000 in 2030</li> </ul>	<ul style="list-style-type: none"> <li>An Economic Net Present Value (ENPV) of HK\$912 billion (in 2009 dollars) under an assumption of 50-year lifespan of the infrastructure</li> <li>Direct employment reaches 141,000 in 2030</li> </ul>												
<b>Development Phasing Plan</b>	<p>Phased over 15 years between 2016 and 2030</p>	<p>Phased over 15 years between 2016 and 2030</p>												
<b>Terminal Expansion</b>	<ul style="list-style-type: none"> <li>Expand Terminal 1 to over 650,000sqm</li> <li>Add more passenger facilities such as check-in counters, baggage reclaim carousels, immigration/ customs/ security processing facilities</li> </ul>	<ul style="list-style-type: none"> <li>Reconfigure Terminal 2 to accommodate both arrival and departure processing facilities</li> </ul>												

<b>Airfield Expansion</b>	<ul style="list-style-type: none"> <li>• Build a second Midfield Concourse with 20 bridge-served passenger aircraft parking stands</li> <li>• Add 20 parking stands for cargo flights in the Midfield area</li> </ul>	<ul style="list-style-type: none"> <li>• Reclaim around 650 hectares of land north of the existing airport island to build a new runway and related supporting facilities including aprons, taxiway systems, passenger concourses and parking stands</li> <li>• Add 36 stands for cargo flights at the Midfield</li> <li>• Build the third runway passenger concourses with 58 passenger aircraft parking stands at the reclaimed area</li> </ul>
<b>Supporting Facilities Expansion</b>	<ul style="list-style-type: none"> <li>• Extend the Automated People Mover (APM) system to reach the second Midfield Concourse and enhance the Baggage Handling System</li> </ul>	<ul style="list-style-type: none"> <li>• Extend the Automated People Mover (APM) system to connect the third runway passenger concourses with Terminal 2 and enhance the Baggage Handling System</li> </ul>
<b>Landside Transportation Facilities Expansion</b>	<ul style="list-style-type: none"> <li>• Improve road system and transport facilities on the airport island</li> <li>• Construct two multi-storey car parks, comprising a total of 2,800 parking spaces</li> </ul>	<ul style="list-style-type: none"> <li>• Improve the airport road network and transport facilities on the airport island</li> <li>• Construct four multi-storey car parks, providing a total of 6,500 parking spaces</li> </ul>