

The Future of Hong Kong International Airport

Comments by the Green Lantau Association

Background

The Airport Authority (AA) has produced a report entitled *Hong Kong International Airport Master Plan 2030*. In summary the AA makes a case, based on projected GDP growth and economic benefits, to significantly expand the capacity of Hong Kong International Airport (HKIA). Two options are offered, an in situ upgrade of the existing 2 runway operation, or the construction of a third runway. The report states that unless Hong Kong (HK) proceeds with an upgrade – preferably the 3rd runway option – the value of the airport will suffer relative decline and the HK economy will not enjoy the full measure of economic growth projected.

Social Return on Investment (SROI) – the missing element

In respect of the 3rd runway proposal at Heathrow, a think tank, the New Economic Foundation analysed the full costs including social, community and environmental. Even allowing that factors such as health were not given a monetary value, the study showed that the net economic effect of the proposal was not a Stg 5.5 billion benefit computed by the Department for Transport but rather a Stg 5 billion loss.

No such SROI has been conducted for HKIA, yet it is apparent that there will be massive social, community and environmental costs including:-

- increased noise levels
- increased air pollution
- increased surface traffic impact
- affect on property values under flight paths
- massive marine impacts of dolphins – the 1997 handover icon for HK

The failure to prepare an over-arching assessment of this proposed massive undertaking is we believe fatal to any true understanding of what is at stake. Until an SROI is competently and independently undertaken, the true cost of the expansion proposals cannot be gauged.

In the absence of a SROI we are perforce obliged to comment on a number of individual aspects of the proposal which have not been properly set out or clarified. These are discussed hereafter.

Traffic Demand Projections

In estimating the future demand for air travel and air cargo, reliance has been placed entirely on projected GDP growth. Whilst this has been at the lower end of the range, (3.2% based on projections for HK), there has been very little supporting analysis done other than looking at aircraft manufacturer's projections.

The Technical Report attached to the AA publication contains data compiled by AA's consultants. Despite relatively full descriptions of the issues faced by HKIA there has been almost no adjustments made from the business-as-usual regression model.

There are a number of aspects which bear further consideration.

Analysis of existing business:-

- We are not informed as to the breakdown of passengers using the HKIA other than approximately one third are transit – the least valuable in economic terms of all passenger types. Arguably HK should develop more direct flights, but HK is constrained by its low population – only 7 million – which the consultants concede is a mature market and unlikely to grow. The implications of the AA projections are that HKIA will be increasingly become a transfer airport – a proposition in itself which is seriously suspect – see later.
- We are not informed as to the number of mainland visitors in the HKIA passenger mix but we are told it is substantial. We do not know what proportion stay in HK or simply transit. We do not know why these visitors choose HK. It has been stated that the Individual Visitors Scheme in China will when widened induce more mainland visitors. Why this should be so is not clearly explained. It is quite possible that visitors who were attracted to see HK in the context of the 1997 handover are now satiated. It may well be that economic changes inside China, such as the recent removal of import tariffs on luxury goods, will see a drastic drop in the fabled mainland spending spree.
- We do not know what proportion of visitors to HK arrive by bus or train. To have no analysis of this clearly competing business across the land border is a considerable omission. There has been an analysis on the possible effects of XRL only – and an acknowledged threat from this source.
- We are not informed as to the sensitivity of air travel to fuel costs and availability. Fuel costs currently contribute some 20 – 25% of airline operating costs. Where are the long term projections in respect of fuel costs? What about Peak Oil – a situation which is already postulated to have been reached and which is inevitable if not already here? If air travel is truly sensitive to GDP then clearly rising flight costs incorporating future fuel cost realities will jeopardise any growth projections.
- We are not informed of the breakdown by origin of the air cargo that HKIA handles. There is a limit to the amount of business generated from HK which manufacturing base contributes just 3% to GDP. There is a limit to what 7 million people in HK will require delivered from abroad by air. The remaining business requires detailed analysis to determine how sensitive it may be to changes. This is discussed in the next section.
- We are not informed as to the underutilized capacity of HKIA to handle more passengers and cargo. We are told that one runway closes for 8 hours/day but not whether that long duration is an industry average for maintenance. We are not told what landing slots are not currently taken due to airlines currently being able to choose more amenable times. We are not told what increase in passenger volumes could be met by simply using wide – bodied instead of narrow – bodied planes. In short there is existing under-utilization which has not been quantified.
- We are not informed as to the effects of current restrictions on airspace on flights. If these are relaxed might more flights be possible?
- We are not informed as to the effects of Air Traffic Control manning issues. If these can be overcome might we see more flights/hour? Anecdotally, Gatwick handles up to 50 flights/hour with one runway, while HKIA manages only 68 with two runways.

Analysis of future business:-

- It is clear from the Technical Report that business growth for HKIA is almost solely based on developments in China.
- These developments however include a fast increasing air service industry with massive increases in aircraft numbers and airport capacities. There is every reason to presume that China will seize the opportunity to maximize revenue from airline operations, and expand both capacity and efficiency – as has already been massively demonstrated with container port construction. It seems probable that the AA has made the same mistake as the proponents of CT 10, projecting general growth and expecting to benefit somehow.
- Passenger growth is predicted to come from personal wealth driven by GDP growth. This growth if it does eventuate may opt for direct flights to destinations rather than transit through HK, using the increasing efficiency, scale and connectivity of mainland airports. Passengers given the choice may prefer final destinations other than HK which has little to offer other than shopping and theme parks.
- Air cargo growth is predicted to come from increased manufacturing following past growth. However already HK manufacturers in the PRD have been hit with a removal-of-export credit concession by the Chinese government. Many are saying they will leave the PRD. Labour costs are increasing rapidly and it may soon become the situation that manufacturing in the PRD – the basis of apparently much of HKIA’s cargo – moves out of range to inland provinces. Labour costs are increasing to the extent it is possible to foresee manufacturing departing for less-developed countries.
- The AA makes the case for HKIA remaining a transfer hub and indeed as HK itself is a mature market, most growth would seemingly have to come from transit business. At the same time AA derides the prospect of passengers transferring through other PRD airports. The position is not made clear by the failure to breakdown just who is transferring. However it is clear that any inconvenience in transfer must be mutual and it seems unreasonable to expect that mainland passengers will continue to prefer HK to transit, the more so if direct flights – acknowledged by AA’s consultants to be preferred by 70% to 85% of passengers – are available under air service changes benefiting China.
- The likelihood of policy changes within China is immense. We should be informed of those which could impact on the operations of the HKIA. With a clear analysis of existing business, these should be apparent

Rationalization

- There has been no apparent discussion into rationalizing the provision of air services within the GPRD. We do not know why HK must go it alone. For example on issues such as the provision of LNG to PRD power plants including HKE and CLP, we have seen GPRD-appropriate decisions made.
- The distances between the GPRD airports are not great and well within the capability of rapid rail services to minimize. Indeed such a link between HK and Shenzhen airports is already planned. Transfer times can become relatively inconsequential.
- We are told that courier service companies including UPS have made their regional base at a GPRD airport. There is no reason why this cannot continue in respect of other air cargo operations and prevent duplication of facilities

- There are common problems facing the GPRD airports in terms of air traffic control and airspace availability. A combined and unified approach can help ensure that the most efficient arrangements are made.
- Duplication of built facilities can be minimized if rationalization of services is adopted. At a price tag of \$136 billion in MOD prices for HKIA's 3rd runway, the scale of savings is considerable.

Climate Change

- Climate change is no longer a seriously debated concept. It is widely accepted and in some countries, notably the United Kingdom, statutory measures have been put in place to meet the challenge. In the UK statutory provisions require the total carbon emissions to drop 80% below 2005 levels by 2050.
- IATA has reportedly an “aspirational” target of being carbon neutral by 2020 and to reduce carbon emissions from aircraft by 80% from 2005 levels by 2050, this based on improvements in engine efficiency while enjoying growth based on GDP in the order of 4% p.a. The study into Heathrow's 3rd runway reported that engine efficiencies have only delivered 1.75% p.a. over the last four decades, and now tapering off. It is clear therefore that the IATA targets are completely unrealistic and that net emissions will only increase with more aircraft movements.
- The aviation industry is rapidly moving towards the use of bio-fuels in aircraft fleets and a number of airlines including Cathay Pacific Airways are members of an organisation called Sustainable Aviation Fuel Users Group (SAFUG). They will compete with other users for available bio-fuels and in so doing will inevitably cause an increase in the already very damaging destruction of bio-diverse primary forests which are being cleared for palm-oil production to feed the bio-fuel demand. Contrary to aviation industry claims, bio-fuel use is not a carbon-offsetting measure but rather an attempt to pursue business-as-usual at the expense of biospheric security. It constitutes destruction of precisely those natural planetary assets the retention of which is most essential for biodiversity preservation and climate protection.
- Airport expansions will only facilitate and exacerbate the already apparent effects of climate change.

The Future

The AA has properly provided us with an estimate of the future as they see it. It is a valuable document based on a considerable amount of research. As may be expected, those sectors of the community which are directly involved are highly supportive. The AA is also to be commended in that, unusually for HK, the public is invited to comment before the project is committed.

That said, the case to expand the HKIA has not been made:-

- the existing business realities have not been discussed in sufficient detail
- the sensitivities of the airline business to external factors have not entered to any degree. This particularly includes the matter of Peak Oil and the probable resultant scarcity and markedly higher price of fuel.
- the sensitivities of the China business relied upon by the AA have been glossed over by taking a GDP projection as proxy for all

- the social, community and environmental costs which may tip the balance as they did at Heathrow, have not been assessed at all
- the global responsibility to reduce carbon generation that is fuelling climate change and which is accepted by other governments, has not entered the equation.

There are three broad scenarios under which we can view the future:-

1. Air travel will be as forecast by the AA's consultants in 2030, and thereafter for a relatively short period until oil stocks are economically exhausted. Option 2 will seem to have been the right decision when adopted but regretted now. HK will have contributed to the hastening of oil depletion while continuing to foster a lifestyle which will be harder to adjust from. Along the way we will have grown richer in monetary terms but at the expense of the integrity of our environment and at considerable social and community cost.
2. Air travel will continue to grow but at a reducing rate reflecting the realities of HK demography and the growing sophistication of the Mainland in air travel matters. HKIA will gradually use up its surplus capacity including night time slots. Option 1 will have been adopted and the flexibility currently enjoyed by airlines on timings and aircraft type will remain, albeit gradually reducing. HK will continue to derive slowly increasing economic benefits while fuel stocks remain available globally to support the industry. This will be seen to have been a correct decision in economic terms and more responsible in social, community and environmental terms than Option 2.
3. Air travel growth will soon stagnate as far as HK is concerned reflecting substantial changes already underway in the main market – China. These include removal of tax incentives to HK owned enterprises, and the relocation of industries which previously generated air cargo to remoter and cheaper areas within the Mainland and to South-East Asia. Passengers from China will enjoy direct-to-destination flights from greatly improved facilities within China and will cease to transit HKIA. HK will cease to be a favoured destination due to the removal of tariff restrictions on luxury goods, a broadening of travel options outside the region, alternative destinations within China, and travel fatigue with HK's limited attractiveness. Under this scenario, no improvement options are appropriate. HKIA will continue to offer extra capacity within existing facilities (e.g. the night time slots), air traffic control and airspace improvements will increase movements per hour, and wide bodied planes will replace narrow-bodied on maturing routes. All HK's requirements will continue to be met by HKIA which will continue to contribute to HK's GDP.

When so viewed, the business-as-usual scenario of Option 2 – the 3rd runway – will seem far too optimistic, and economically and socially irresponsible.

Option 1 – an in situ upgrade of the existing platform - will seem a gamble which hopefully will not over capitalize capacity whilst paying some regard to the imperatives of climate change

The do-nothing scenario will be a decision HK will undoubtedly fail to take.

Although probably realistic and responsible in respect of environmental stewardship, it would not be attuned to expectations of continued capital investment in infrastructure which has served HK well, albeit with diminishing effectiveness, for a long period of time.

These questions and possibilities will, we hope, help foster due consideration to the task ahead, which is to properly provide for HK's air traffic needs for the foreseeable future with their associated benefits of employment and contribution to our economy, whilst not compromising our greater social responsibilities to future generations and to the global community.

We would add finally that all infrastructure projects have a social, community and environmental cost. We cannot continue to operate on the basis that such are unaccountable and of no relevance. Notwithstanding a wish to proceed with such projects, **a responsible administration will undertake a SROI as part and parcel of all major proposals.** The present Airport 2030 proposal is a good place to start.

Clive Noffke
Green Lantau Association

August 2011