ECONOMIC ISSUES

ASSOCIATED WITH

EXPANSION OF THE ISLAND AIRPORT

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ECONOMIC ISSUES THAT MUST BE INDEPENDENTLY STUDIED WITH RESPECT TO THE PROPOSED EXPANSION OF THE ISLAND AIRPORT

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INTRODUCTION

Porter Airlines proposes that the runway at Billy Bishop Toronto City Centre Airport (the island airport) be extended 200 metres to the east and 200 metres to the west in order to accommodate jets. The proponent Ports Toronto is now conducting an environmental assessment of that proposal.

There has been no serious analysis of the costs and benefits of this expansion proposal. To date, only one study of the economic effects of expansion has been done, that of HLT Advisory. *http://www.toronto.ca/legdocs/mmis/2013/ex/bgrd/backgroundfile-64305.pdf*

As set out in the December 8, 2014 Request of Greater Waterfront Coalition (GWC) *https://d3n8a8pro7vhmx.cloudfront.net/nojets/pages/384/attachments/original/1419093351/141208_Request_for_Participant_Funding_.pdf?1419093351*, the HLT study has significant shortcomings. It was done in three weeks. It expressly considered only the interests of the airport/airline industry and airport/airline users, and not the interests of the public at large. It did not consider alternatives to expansion.

An appropriate study of the costs and benefits of the proposal to the public should done by a reputable firm, commissioned by an entity such as GWC representing the public interest, independent of any analysis by consultants retained by the proponent, Ports Toronto.

A framework for carrying out an appropriate study is found in a 2013 report prepared by CE Delft, ***Assessment of the Economics of Airport Expansion****. http://assets.wwf.org.uk/downloads/economics_of_airport_expansion_march_2013.pdf*

This report was prepared at the request of the Davies Commission, a high level public body investigating whether additional airport runway capacity is needed in the UK, and if so, where it should be built. CE Delft reviewed the literature, and best practices, and set out a framework for weighing the social costs and benefits of a proposed airport expansion project. That framework is not specific to the UK, but can be usefully employed to evaluate any airport expansion proposal.

The CE Delft report recommended a social cost benefit analysis (SCBA) as the most appropriate way to evaluate airport investment plans. SCBA provides an overview of current and future pros and cons of a particular project for society as a whole (public, private sector and government) as objectively as possible. It therefore differs fundamentally from a financial analysis or business case, which identifies the costs and benefits solely for a particular party. The use of SCBA is common practice in the UK and many other countries.

The CE Delft report also investigated the relationship between expansion, connectivity and economic growth. As well, it pointed out common misconceptions and errors found in many airport-related economic documents.

A social cost benefit analysis, as outlined in the CE Delft report, must be done of the expansion proposal at the island airport. Care should be taken that any study or analysis of the proposal not fall into the common errors that the CE Delft report identified.

WHAT IS A SOCIAL COST BENEFIT ANALYSIS?

SCBA is defined as 'an evaluation method that can be used to consider the impact of policy decisions'. It provides an overview of current and future pros and cons of a particular investment or policy project for society as a whole as objectively as possible. It is based on a broad definition of the term 'welfare' which includes public, private and government benefits and costs.

An SCBA typically comprises four steps:

1. The project and the baseline scenarios are defined. If project alternatives exist, all relevant alternatives are defined.

2. The effects of the project are identified.

3. Each effect is quantified.

4. Where possible, effects should be monetized, while recognizing that it may be impossible to monetize some costs of a cultural, environmental or aesthetic nature. Care must be taken not to underestimate non-monetized costs.

OUTLINE OF THE PROPOSED STUDY

An appropriate SCBA of the proposal to expand the island airport should follow roughly the following outline:

(a) The project should be defined, as should project alternatives.

It is straightforward and perhaps obvious to define the island airport expansion proposal, but also critical to define the project alternatives.

The alternative to expansion is the *status quo*: the Tripartite Agreement would remain in place, forbidding jets at the airport, but turboprops would continue to fly to existing destinations. Possible alternative versions of that scenario are possible, and should be considered: passenger growth could be allowed to grow to the extent permitted under the existing Tripartite Agreement, or alternatively, Ports Toronto could agree to limits to passenger growth, as proposed by the City (without agreement from Ports Toronto, so far). In either scenario, jet travel would continue to be available at Pearson, accessible by public transit, taxi, driving, or by the new UpExpress rail link. Porter Airlines would, or alternatively would not, start to operate jets from Pearson or from somewhere else such as Hamilton or a potential new airport at Pickering. Steps could be taken to improve the customer experience at Pearson, or to further improve access to Pearson, or not.

An additional project alternative would be to invest in a high speed rail link to desired destinations, reducing the use of both jet and turboprop aircraft, and substantially reducing emissions per passenger mile.

(b) The effects of the proposal. Is there unmet demand?

Next, the effects of the project should be identified. Here, the CE Delft report makes a key point: "*In case of unmet demand (demand for air travel is larger than supply), additional capacity will lead to more profits and increased welfare. In case of no unmet demand (demand is equal or lower than supply), additional capacity will not lead to additional welfare.*" (CE Delft report, Footnote 3).

An SCBA should examine whether there is unmet demand in the GTA for jet travel to Florida, California, Las Vegas or the other destinations Porter wishes to serve with jets. Airport capacity, load factors (the percentage of available seats occupied) and the percentage of landing and take-off slots available versus used, at both Pearson and the island airport, should be analyzed to determine if unmet demand exists.

The study may reveal it does not. Pearson is under capacity, and will be for many years. When and if in future the passenger volume at Pearson nears capacity, the island airport even if expanded at high cost, may be far too small to address the problem. A new international airport, perhaps at Pickering, or an additional runway at Pearson, might eventually be required.

(c) Transport Economic Efficiency

The question of transport economic efficiency should be considered. The key question is to what extent would island airport expansion create new economic activity, and to what extent would it merely divert activity from Pearson that would occur anyway in the absence of expansion? How many *new* travellers will expansion bring? Put another way, how many potential travellers will not fly to the GTA, or not fly from GTA elsewhere, if their only options are to fly in a jet to or from Pearson or in a turboprop to or from the island airport, however, these notional travellers *will fly* if the island airport is expanded? The best estimate should be made of how many such new travellers there will be, if any.

(d) Economic effects of time-saving

The economic benefits of time-saving should be measured. What changes in business and non-business travelling time will occur, for how many people, if expansion is allowed? To monetize this benefit, a notional hourly rate could be applied to the estimated time-saving for business users, and perhaps for nonbusiness users as well. Jets will not be used at the island airport for existing destinations such as Montreal, Chicago and New York (to which flying times are in any event the same with jets or turboprops), but only for more distant designations such as Los Angeles, Vancouver etc. These destinations are of course reachable now from Pearson. What time-saving, and resulting economic benefits, would jets at the island airport bring?

The study may find that for most people in and around GTA, the option of flying to these destinations by jet from the island airport would result in minimal if any time saving compared with flying from Pearson. Pearson is accessible by several 400 series highways, and soon to be accessible by UP Express direct link. The island airport, on the other hand, is not directly accessible by freeway, but only by local roads subject to downtown traffic congestion. Travel processing delays such as customs and check-in at the island airport may or may not be shorter than at Pearson now, and may increase if expansion occurs.

(e) How much will net spending increase?

The study must look at estimated dollars being spent in GTA by any new in-coming travellers who would not otherwise fly here but for expansion, but as set below it is important to deduct the estimated dollars that would spent by new out-going travellers from GTA in the destinations jets from the island airport would reach. The important figure is the net increase in spending in the GTA.

(f) Will expansion lower ticket prices? How?

Any claimed economic benefits should be examined fully. As set out in GWC Request document, the economic benefits identified by the HLT Report were based mainly on the assumption that expansion would bring lower ticket prices. Yet HLT also noted that there are already several airlines flying from Pearson to the destinations that jets from the island airport would serve: seven airlines now fly to Los Angeles and two to Vancouver, for example. As these airlines presumably already compete on price, the question is whether building a new and potentially duplicative jet facility at the island airport 25 km from Pearson is the most economically efficient way to introduce new price competition and lower prices.

In view of the high cost of expansion, presumably to be covered in whole or part by user fees, would ticket prices would in fact be lower? Are ticket prices lower at the island airport now, on an apples-to-apples comparison? If Porter's entry into the jet travel market will indeed introduce lower prices, will this also occur if Porter jets fly from Pearson? If not, why not?

In short, if price competition is indeed insufficient now on these routes, the study should ask, why and how will island airport expansion address the problem? If there is a lack of price competition on airfares, might the problem be better addressed through the Competition Bureau, rather than by undertaking a costly expansion at the island airport?

(g) What are the lost opportunity costs?

The lost opportunity costs should also be considered. It remains unclear how expansion would be funded. The Deputy City Manager's Staff Report noted that the cost of city-side infrastructure changes might be $270 million, and that the cost of the airport expansion itself is unknown but would be in the hundreds of millions. Would this involve public money? If yes, what other other projects, such as subways, waterfront revitalization,

highway infrastructure etc, might not be funded if scarce resources were directed to airport expansion? To the extent expansion would be funded by private investment, would those dollars be productively invested elsewhere in the GTA in the absence of island airport expansion?

(h) Lack of buffers increases costs

Expansion of any airport will bring negative impacts, some of which can be monetized while other cannot be, but may be nevertheless significant. The CE Delft report notes that the reduction in real estate values in the surrounding area may be large, and that environmental damage, additional traffic congestion, noise and cultural and recreational impacts, though mostly non-monetized costs, have well-documented economic impacts and should not be underestimated.

The costs of expansion at the island airport maybe larger than for other airport expansion projects, however. The island airport is exceptional in that it is on and in fact part of Toronto's waterfront; the "buffers" that exist between most airports and dense population, such as a large vacant grassy expanse, expressways, fences, and low-lying industrial buildings, are not present. As a result, the real estate-related, environmental, noise, traffic and cultural costs, both monetized and otherwise, are likely to be more significant. The cost may include those itemized below, although there may be others.

(i) Effect on real estate values

Noise and airport-related traffic congestion typically reduce, or reduce the growth of, property values near an airport. The bigger the airport and the bigger the airplanes, and the closer to populated areas, the greater this effect is likely to be. The island airport is unusual in being within hundreds of metres of housing, condominium towers, businesses, parks, marinas, waterside promenades, restaurant patios, cultural amenities etc.

An appropriate study must therefore examine to what extent airport expansion would reduce the value of the surrounding real estate. It is not enough to conclude that waterfront values would likely still rise in the event of expansion; the important question is whether growth in real estate value would or would not increase at a lower rate than might be expected in the absence of expansion.

(j) Traffic

The Deputy City Manager's Staff Report noted that traffic concerns are acute near the Island airport. If jets are permitted (and even if they are not) such concerns are likely to get worse. It may be possible to monetize these costs to some extent through estimates of lost time arising from congestion attributable to expansion. Whether such costs can be monetized or not, they must not be underestimated. It must be kept in mind that increased congestion and traffic have safety implications for local residents, in particular for the school beside the island airport.

(k) Noise

As noted the CE Delft report, jet engine noise not only depresses property values, it also has negative impacts on health, including an increase in the risk of high blood pressure and consequences for myocardial infarction and cerebrovascular accident, in cognitive impairment in children, and sleep disturbance. These impacts not only lower the wellbeing of the affected individuals but may also reduce their productivity. As there are thousands of homes, a school, business and many tourism and many recreational venues close to the island airport, the costs of additional noise generated by expansion may be significant. They must be monetized to the extent possible, but if impossible to monetize, must not be underestimated.

(l) Impact on waterfront revitalization and tourism

The revitalization of Toronto's waterfront over the past 15 years has brought economic benefits to the GTA and waterfront in enhanced tourism, rising property values and quality of life. Will island airport expansion detract from or enhance these existing benefits? What impact would expansion have on the growth of such benefits in future as revitalization continues? Does airport expansion mean Toronto must forego some benefits of waterfront revitalization it would otherwise get, including loss of expected tourism growth? Put another way, will the economic benefits (both monetized and otherwise) of Toronto's on-going waterfront revitalization process grow faster or slower in the absence of airport expansion?

It may be possible to monetize such costs to some extent. As an example, crowded tour boats now give guided tours of the harbour, which has recently become a significant tourist attraction. The tour boats pass immediately by the marine exclusion zone at the east end of the runway every few minutes in summer. Under the proposed runway expansion proposal, such boats will be approximately 150 metres from and directly behind jets commence starting their take-off run, and will be subject to jet blast of approximately 90km/hr and decibel levels which are as yet unknown but which may be literally deafening. A tourist in a boat, will experience more concrete, more noise, bigger planes overhead, and fewer birds and sailboats. This may have a negative effect on the economic value of the harbour and waterfront-related tourism. It may be possible to monetize to some extent this reduction in the appeal of the harbour to tourists if expansion goes ahead, but there may also be far greater non-monetizable costs in the form of a loss in the aesthetic appeal of the harbour and waterfront for future generations.

(m) Environmental effects such as as air pollution

Air quality changes resulting from jets at the island airport may impose greater costs than at other airports. While all jets create emissions, the health effect of jet emissions may be far greater at the island airport due to its extreme proximity to thousands of homes, a school, and significant recreational and cultural amenities, such as the Toronto Islands, waterfront promenades, Harbourfront, the Music Garden, marinas, yacht clubs, and

the Harbourfront Canoe and Kayak Centre (HCKC). Jets would take off and land within hundreds of metres of thousands of residential, business and recreational users of the Toronto waterfront and Toronto Islands and pass within *tens of metres* of recreational boaters on the harbour itself, such as children in the HCKC summer paddling camp. It is unlikely the impact of jet engine emissions as such close distances can be monetized, but this is nevertheless an important cost.

(n) Safety risks

As set out in the GWC Request document, significant safety concerns arise from introducing jets at the island airport. Recreational boats such as kayaks and sailboats will be subject to jet blast and noise (there will be as little as 132 metres between boats and blasting jet engines). Perhaps more important, safety concerns arise from the highly unusual proximity of the proposed jets to the tall buildings of downtown Toronto, and its dense population.

In short, the waterfront may not offer enough airspace free from obstacles in the event a crippled jet misses an approach or experiences engine failure on take-off. The jets will weigh twice as much, carry three times as much fuel, land and take-off much faster, and are less maneuverable than the existing turboprops. The runway is also unusual in being largely surrounded by and unusually close to water. Speedy access of sufficient emergency vehicles to the Island Airport in the event of a major accident may be difficult. There are also risks involved in storing and transporting increasing amounts of jet fuel close to residences and schools. It is essential that these risks be fully and independently investigated by aviation experts not retained by the proponent, as set out in another GWC document.

For the purposes of an SCBA, it must be recognized that heightened safety risk is a cost of expansion. It can to some extent be monetized in the form of greater insurance costs, but for the most part cannot be monetized. Yet it is important, and indeed may be more important than all the other costs of expansion.

COMMON ERRORS IN ECONOMIC STUDIES OF AIRPORT EXPANSION PROJECTS

The CE Delft report also identified errors commonly found in economic studies of airport expansion projects. An objective study of the proposed island airport expansion should of course avoid similar errors.

Some examples:

Air traffic growth is often overestimated (CE Delft report, p. 25). For example, forecasted passenger demand in the UK between 2007 and 2013 overshot by 65 per cent.

Ignoring negative effects: ”*Templates often omit the external effects and ignore the negative impacts on, for example, the environment, noise and pollution, even though*

these have well documented economic impacts. Noise depresses property values and has negative impacts on health, including an increase in the risk of high blood pressure and consequences for myocardial infarction and cerebrovascular accident, in cognitive impairment in children, and sleep disturbance (WHO, 2011). These impacts not only lower the wellbeing of the affected individuals but may also reduce their productivity (CE, 2012). Other negative impacts that are often omitted are the expenditures of UK inhabitants abroad and investments abroad. The aviation industry does not facilitate just inward investments, but also outward investments. Ignoring these negative effects will result in an underestimate of the net impact of the investment project" (p. 19)

"*On the other hand, there is a tendency in the aviation industry to overestimate the positive benefits of aviation.*" (p. 19-20).

"*Another commonly made mistake is that employment is often counted as a benefit." (p. 20) Employment is an indirect effect and should not be included, unless there is structural unemployment i.e. vacancies would be filled by long-term unemployed who would otherwise be unable to find employment now or in the future. Wages are part of the cost of the project, not the benefits, "tourism jobs impacts should also include the loss of income through money that local residents spend abroad.*"

Benefits are often double-counted (p. 20). Adding "*direct, indirect, induced and catalytic value- added leads to double counting and an overestimation of the positive effects.*" As another example, direct benefits may be obtained by multiplying the assumed reduction in travel times for business trips with the value of an hour to business travellers, and this figure may be added incorrectly to a separate estimate of wider benefits of connectivity as a percentage of GDP. Both are the same impact calculated different ways. (p. 34).

Mistaking correlation for causation. There is often a correlation between economic growth and additional airport "*connectivity*", but it this does not establish that additional connectivity causes economic growth.

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