

**Short-Term Gain and Long-Term Pain:
A case study of the 2015 Toronto Pan American Games and
the Union-Pearson Express**

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Abstract

Mega-events have been credited with being catalysts of urban regeneration and accelerating infrastructure development. Staging a mega-event not only requires significant investment in event-related facilities but also usually necessitates upgrades to transportation infrastructure. This paper broadly examines the role of mega-events in fast-tracking urban improvements as well as the ramifications of accelerated development on cities. In particular, it discusses how the 2015 Pan American Games held in Toronto fast-tracked the completion of the Union-Pearson Express, a rail link connecting the city's downtown and primary airport, after the project had been stalled for years. This case study reveals the tensions between the long-term planning goals of the host city and more short-term demands for mega-events. The Union-Pearson Express is criticized for being inconvenient, inaccessible and over-priced, resulting in adverse impacts on the environment and human health and not doing enough to encourage public transportation. This paper contends that the Union-Pearson Express offered short-term gain associated with the Pan American Games that fails to address the long-term transit and other needs of the Greater Toronto Area. It is very much short-term gain for the price of long-term pain.

Foreword

This Major Paper is the final piece needed to satisfy the requirements of the Plan of Study for receipt of a Master in Environmental Studies Program in Planning from the Faculty of Environmental Studies at York University. It is a culmination of the knowledge gained through coursework in the program that has provided me with a sound background in transportation planning, land use planning law, research methods, environmental planning and urban-regional planning.

Titled “Cultural Considerations for Urban and Regional Planning,” the area of concentration in my Plan of Study focuses on understanding, conserving and utilizing the built cultural heritage in urban regions. This not only considers the importance of historic preservation, it also examines how new development projects can contribute to a city’s cultural notoriety. My research focuses on how new urban infrastructure built for mega-events can serve as a long-lasting cultural legacy for the host city. In particular, it examines the transport legacy of the 2015 Pan American Games held in Toronto, giving specific focus to the Union-Pearson Express project.

This Major Paper has helped me achieve Component 2 and Learning Objective 2.1 from my Plan of Study which focuses on the theories, concepts, policies and practices involved in urban and regional planning. It examines the Union-Pearson Express project in the context of Ontario’s Regional Transportation Plan *The Big Move*, GO Transit’s strategic plan *GO 2020*, as well as environmental impact assessments as required by the province. This paper also contextualizes the Union-Pearson Express and the Pan American Games with prominent urban development process theories such as David Harvey’s theory of capital investment and its impact

on urban areas, and Jamie Peck and Adam Tickell's notion of mega-events as strategies for urban regeneration associated with post-Fordism and related transitions to a post-industrial society.

This research paper also accomplishes Component 3 and Learning Objective 3.2 from my Plan of Study which examines the relationship between culture and economic development in an urban region. It discusses Toronto's desire to host a mega-event in order to enhance its international reputation and achieve potential economic benefits such as increased tourism, local job creation and spinoff benefits to local businesses. These assumed benefits were seen to justify substantial public investment in infrastructure and transportation improvements, including the Union-Pearson Express. However, this paper concludes that important errors in planning mean that the project has not been successful in meeting longer-term objectives.

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1. Introduction

Mega-events such as the Olympics, the FIFA World Cup and the Pan American Games are short-term, high-profile events associated with prestige and global visibility that often cause large-scale transformations in cities and regions (Kassens-Noor, Wilson, Müller, Maharaj and Huntoon, 2015). Mega-events have been championed as instruments of long-term economic development and powerful tools for urban revitalization, regeneration and development. They require investing significant largely public funds to build the appropriate facilities and infrastructure to accommodate not only the event's activities but also the influx of visitors for the duration of the event. The hosting of mega-events has been actively pursued by cities all over the world as a way to fast-track an urban regeneration agenda and stand out among the global competition for international capital (Silvestre, 2009).

After several failed attempts to host the Olympics, Toronto finally got the chance to showcase itself to the western hemisphere by hosting its first mega-event—the 2015 Pan American Games. When the Pan American Sports Organization announced in November 2009 that Toronto had won the bid to host the 2015 Pan American Games, supporters saw it as an opportunity to leverage economic investment, fast-track urban development, and attract tourists. Toronto and the surrounding region would need new and improved sports facilities, accommodations for the athletes and coaches, and most importantly, transit improvements to ensure that athletes and those attending the events could move efficiently from one venue to another. The Games provided fixed deadlines and accelerated the implementation of planned projects that would otherwise take much longer to complete. In little over five years, the Greater

Toronto Area experienced a massive investment in large-scale infrastructure development catalyzed by the Pan American Games.

This paper examines the role of mega-events as catalysts for urban development in the cities that host them. It discusses transportation improvements as a key aspect associated with mega-events and the long-term implications of accelerated development. More specifically, it focuses on transportation infrastructure constructed for the 2015 Pan American Games in Toronto, using the Union-Pearson Express project as a case study. The need for a rail link between downtown Toronto and Pearson International airport has been recognized for decades, just as such a link is available in other major cities. This research paper focuses on the factors that stagnated the development process and how the Pan American Games helped to change the decision-making process that resulted in a rail link that should have been constructed many years ago. Lastly, the research assesses both the positive and negative implications of the Pan American Games accelerating the completion of the Union-Pearson Express and how the project addresses broader urban and regional planning objectives.

The research methodology utilized for this paper is a substantive review of literature including academic articles, books, grey literature (such as government reports and planning policies), and other forms of published material. The review of academic and scholarly literature focuses on key documents regarding mega-events in relation to urban infrastructure development, specifically transportation improvements, and the lasting legacies left from these developments. News media sources are also examined such as newspaper articles, press releases, website information and blog posts to contribute up-to-date information about the Union-Pearson Express and public perception of the project.

This paper begins with a review of scholarly literature on the intersection of mega-events and mega-projects to provide the appropriate context for the relationship between the Pan American Games and the Union-Pearson Express. A description of the 2015 Pan American Games in Toronto is then provided, followed by an overview of the history, planning, and implementation of the Union-Pearson Express. While the Union-Pearson Express helped to meet the short-term objectives associated with the Pan American Games, the subsequent section criticizes it for missing longer-term opportunities to improve regional public transit in the Greater Toronto Area. It is criticized for being inconvenient, inaccessible, over-priced, and for adverse impacts on the environment and human health. The paper concludes with a speculative discussion on the future of mega-events in Toronto and for the Union-Pearson Express, as well as the lessons to be learned from the role of mega-events as catalysts for fast-tracking mega-projects.

2. On Mega-Events and Mega-Projects

Roche (2000, p. 1) defines mega-events as large-scale cultural (including commercial and sporting) events of mass popular appeal and international importance that are typically stage-managed by a combination of national governmental and international non-governmental actors. Examples of sports-focused mega-events include the Olympics and the FIFA World Cup, which are of world-wide interest. The Pan American Games are of interest in the western hemisphere but still categorized as a mega-event. Such events are used to justify substantial public investment in new or improved infrastructure and event-related facilities. They often require repayment of long-term debt and always require long-term use-programming (Roche, 1994).

According to Essex and Chalkley (1998), mega-events have emerged as a significant catalyst for urban regeneration and can act as a key instrument of urban policy for their host cities. These events are attractive to host cities and countries seeking to rebuild infrastructure or promote a city brand (Kassens-Noor et al., 2015).

The notion of using mega-events as an opportunity for urban change is important to understand within the context of wider changes in the urban economy. The contribution of these events to strategies for urban regeneration is strongly associated with post-Fordism and related transitions to a post-industrial society (Essex and Chalkley, 1998; Peck and Tickell, 1995). Harvey (1989) highlights the use of ‘urban spectacles’, such as mega-events, as a strategy for urban renewal, asserting that spectacles are seen as one of the main products and processes by which cities can express and redefine their image and promote its position on the global stage. The concept of spectacle is closely aligned with marketing the city to attract investment that will underpin the desired urban regeneration.

Yet, mega-events often go hand-in-hand with mega-projects. Flyvbjerg (2014, p. 6) describes mega-projects as “large-scale, complex ventures that typically cost US\$1-billion or more, take many years to develop and build, involve multiple public and private stakeholders, are transformational, and impact millions of people.” Examples of mega-projects include high-speed rail lines, airports, seaports, large-scale signature architecture, national broadband, etc. Mega-events such as the Olympics can themselves be regarded as a mega-project when considering all of the money and preparations that goes into hosting the Games. Planning and managing the Olympics is a huge project in itself and very costly. The total estimated costs for the most recent Olympics including Games-related infrastructure are: Beijing 2008: \$43 billion;

Vancouver 2010: \$8.9 billion; London 2012: \$13.9 billion; and Sochi 2014: \$51 billion (Gibson, 2013).

Considerable investment in both event-related facilities and supporting infrastructure is required to host a mega-event, and these then become legacies to the host city when the event is over (Essex and Chalkley, 1998). In addition to the provision of new event facilities such as sports stadiums, concert halls and museums, mega-events have also acted as a stimulus for major urban developments such as new road systems, public transport initiatives, air terminals, urban renewal programs, tourist and cultural facilities, as well as parks and beautification projects designed to enhance the city's landscape and environment (Essex and Chalkley, 1998). Mega-events are often credited with providing additional funding resources, such as federal funds, that would otherwise be unavailable for planning initiatives (Lewis, 2014). However, Roche (1994) notes that the creation of infrastructure and event facilities often carries long-term debts and requires long-term use programming. Montreal's hosting of the 1976 Summer Olympics incurred a debt of \$600 million as the preparation time for the games coincided with a deteriorating Canadian economy and an international recession (Kidd, 1992).

Large-scale infrastructure projects such as airport expansions, athletes' villages, and public transportation systems are one of the costliest aspects of hosting a mega-event. For instance, the Vancouver Olympic Village for the 2010 Winter Olympic Games that housed 2,800 athletes, coaches and officials cost CAN\$1-billion. The construction of the Village, however, was not without its challenges. The 2008 economic crisis and a number of undisclosed local political commitments made completing the Vancouver Olympic Village very challenging (Scherer, 2011). Yet the project was an important one not only as a necessity for the Games but also because the history of the project dates back to the 1990s when municipal officials first

entered into a discussion to create a sustainable residential community on the Southeast Shore of False Creek, a former industrial area situated on prime waterfront land (Scherer, 2011). The Olympics served as an opportunity to accelerate a large-scale urban development project.

Mega-events have been credited with significantly changing land-use patterns and the city's infrastructure, particularly in terms of transport networks (Essex and Chalkley, 1998). Transportation improvement mega-projects are very commonly affiliated with mega-events. For example, the Beijing Capital International Airport for the 2008 Summer Olympic Games was the stimulus for a third terminal and runway at a cost of US\$3.5 billion. This project was fundamental in relieving the existing congestion on the other two runways as well as accommodating the influx of visitors for the Olympics. According to Van Der Westhuizen (2007), mega-events and urban transport are intimately linked as transport constitutes the most visible demonstration of logistical success and is easily exposed to strong scrutiny and criticism.

In many cases, mega-events have provided the justification for related developments to be fast-tracked through accelerated planning, design and construction. Essex and Chalkley (1998) note that city planners may see the hosting of a mega-event as an opportunity to fund and bring forward long-term plans that would otherwise remain in the pending file for many years. In this way, mega-events may be said to accelerate change rather than initiate it (Essex and Chalkley, 1998).

According to a study by Flyvbjerg (2007), urban rail projects are one of riskiest types of mega-projects. The study examines 44 urban rail projects which are compared with 214 other transportation infrastructure projects. Flyvbjerg (2007) found that the average cost escalation for urban rail is 45 per cent in constant prices, and for 25 per cent of urban rail projects cost escalations are at least 60 per cent. Moreover, actual ridership on average is 51 per cent lower

than forecast, and for 25 per cent of urban rail projects actual ridership is at least 68 per cent lower than forecast.

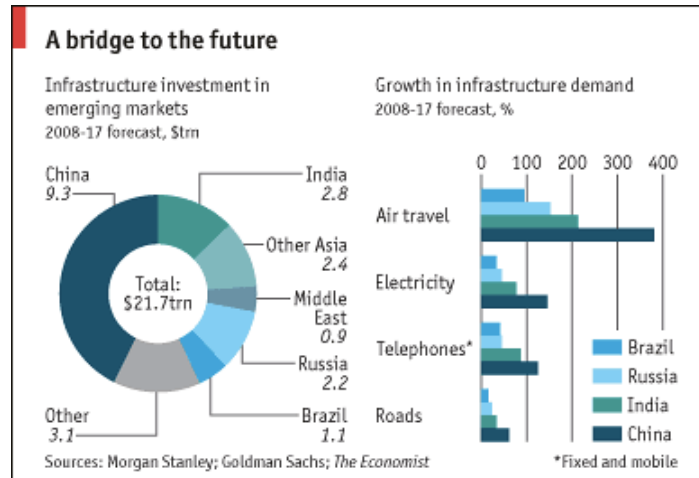
Cities often desire to host a mega-event for the perceived economic benefits involved. The event can promote economic activity as a result of the jobs created and because of the vast numbers of tourists visiting the city during the event. Yet the increases of employment in tourism related industries such as hotels and restaurants can be largely temporary and often disappear after the event finishes (Li and McCabe, 2013). On the other hand, mega-events can provide an opportunity to enhance a city's image and reputation at-large, resulting in longer-term tourism benefits. Broadcasted globally and watched by millions of people, there is an impetus for the host city to appear attractive and desirable in the international spotlight. In the modern global economy where major cities compete for investment, mega-events represent a unique publicity platform and opportunity for place marketing (Essex and Chalkley, 1998). Moreover, the international spotlight on a host city could bring long-term tourism benefits through image enhancement (Ritchie and Smith, 1991).

Mega-events can also accelerate urban development through the creation of infrastructure necessary to host the event. Even unsuccessful bids on an event can bring urban improvements and benefits to a city such as urban projects and regeneration initiatives in order to strengthen a city's bid (Essex and Chalkley, 1998; Law, 1994). Yet Paddison (1993) and Roche (1994) note that the decision to bid is not necessarily democratic or based on a clear expression of public opinion. In many cases there is limited public consultation and the bid is fast-tracked with an incomplete evaluation of social and economic implications (Hall, 1992). Harvey (1989) argues that heightened inter-urban competition, such as bidding for a mega-event, can produce socially wasteful investments and consequently exacerbate rather than ameliorate urban problems. Hiller

(1990) contends that the average citizen receives relatively little tangible or direct benefit from a city hosting an event and may even experience extra costs. These extra costs can emerge through increased taxes raised in order to finance event-related infrastructure, the destruction or disturbance of existing communities through building projects, and from increased housing costs resulting from gentrification (Essex and Chalkley, 1998).

The mega-project boom

Mega-projects are growing in popularity, being built in ever greater numbers at ever greater value (Flyvbjerg, 2014). The McKinsey Global Institute (2013) estimates that global infrastructure spending will be US\$3.4-trillion per year between 2013 and 2030, or approximately 4 per cent of the total global gross domestic product, mainly delivered as large-scale projects. The accelerated pace to which spending on large-scale infrastructure is taking place is well illustrated by China between 2004 and 2008. In those five years the country spent more on infrastructure in real terms than during the entire 20th century (Flyvbjerg, 2014). In those same years China built as many kilometres of high-speed rail as Europe did in two decades (Flyvbjerg, 2014), even though Europe was also extraordinarily busy building this type of infrastructure such as the Channel Tunnel (Eurostar) railway connecting London to Paris that opened in 1994. Flyvbjerg (2014) asserts that there has never been a time in the history of mankind where infrastructure spending has been this high. *The Economist* (2008, p. 37) calls it “the biggest investment boom in history” with over half of the world’s infrastructure investment now taking place in emerging economies. The following image forecasts how much will be invested in emerging economies, where this investment is expected to take place and the type of infrastructure being built.



Forecasting infrastructure mega-projects in emerging economies
(Source: *The Economist*, 2008, p. 37)

Flyvbjerg (2014) notes that infrastructure mega-projects have proved to be remarkably recession proof as the 2008 recession actually helped the mega-projects industry grow. The notion of mega-projects being recession proof corresponds with Harvey's (1978) theory of capital investment and its impact on urban areas in his article, "The urban process under capitalism: a framework for analysis." Based on Marxist concepts of the contradictions of capitalism and the dynamics of accumulation, Harvey (1978) posits that investment in the built environment is perceived in relation to the different forms of crisis that may arise under capitalism. Harvey's model of capital investment encompasses the primary circuit of capital (production), the secondary circuit of capital (the built environment), and the tertiary circuit of capital (social investment, and science and technology). The primary circuit has a tendency for "overaccumulation" meaning that too much capital is produced in aggregate relative to the opportunities to employ that capital. This manifests itself as overproduction (a glut on the market), idle productive capacity, the surplus and/or exploitation of labour power, and the falling rates of profit. This tendency towards overaccumulation can be overcome, at least temporarily, by switching capital into the secondary or tertiary circuits.

Harvey (1978) further explains that the investment in these circuits is done for the sole purpose of capital gains and has nothing to do with the real needs of the people. Shifting investment from primary to secondary and tertiary circuits does not eliminate the tendency towards overaccumulation, rather it increases the likelihood of over-investment in the secondary and tertiary circuits of capital. In these circuits, chronic overproduction results in devaluation of fixed capital and consumption fund items – a process that affects both the built environment and the producer and consumer durables. These tendencies can cause crisis in the capitalist mode of production. Harvey (1978) notes that the global crisis of capitalism in the 1930s and 1970s was in fact preceded by the massive movement of capital into long-term investment in the built environment as a kind of last hope for finding productive uses for rapidly overaccumulating capital. Based on historical data in Britain and the United States, Harvey (1978) examines the ‘long-waves’ of investment in the built environment and the strong relationship between these waves and fluctuations in the money supply and in the structure of capital markets.

While Harvey’s theory of the urban process under capitalism asserts that market conditions that stimulate investment in the built environment, Flyvbjerg (2014) presents “four sublimines” that drive mega-projects and make them attractive to decision makers. These sublimines are technological, political, economic, and aesthetic.

The technological sublime refers to pushing the boundaries of what technology can do. It is regarded as the enthusiasm of engineers and technologists to build large and innovate projects such as building the tallest building, the longest bridge, the fastest train, the largest wind turbine, or the first of anything (Flyvbjerg, 2014).

The second sublime is the political sublime described as the rapture politicians get from building mega-projects as monuments to themselves and their causes, and from the visibility this

generates with the public and media (Flyvbjerg, 2014). Mega-projects are media magnets and often a lot of attention is given to the politician responsible for initiating the project, putting him or her in the limelight for being pro-active. This type of public exposure helps get politicians re-elected and so therefore, they actively seek out mega-projects while in office (Flyvbjerg, 2014). Van Der Westhuizen (2007, p. 344) also identifies mega-projects as being political symbols stating that massive infrastructure projects “often feed into, as much as they are part of, the state’s marketing power.” This marketing power internally refers to the ways in which state and corporate elites shore up legitimacy and reinforce a sense of national identity while performing a fundamental role in terms of global signalling externally (Van Der Westhuizen, 2007).

Flyvbjerg’s (2014) third sublime driving mega projects is economic and refers to the delight business people and trade unions get from making money and jobs generated from mega-projects. Mega-projects create and sustain employment and since they usually have enormous budgets, there are ample funds available for all to go around including engineers, contractors, architects, consultants, investors, developers, lawyers, construction workers, bankers, landowners, etc. (Flyvbjerg, 2014).

The fourth and final sublime is aesthetic and is explained as the pleasure designers and people who appreciate good design get from building, using, and looking at something very large that is also iconic and beautiful (Flyvbjerg, 2014). Examples of mega-projects marvelled for their design include the Golden Gate Bridge in San Francisco or Sydney’s Opera House.

Justifying a mega-project by using one of the four sublimines can lead to inherent risks being overlooked or glossed over. Success of a mega-project is typically defined as being delivered on budget, on time, and with the promised benefits. Flyvbjerg (2014, p. 11) states, “[i]f, as the evidence indicates, approximately one out of ten mega-projects is on budget, one out

of ten is on schedule, and one out of ten delivers the promised benefits, then approximately one in one thousand projects is a success, defined as “on target” for all three.” There are many risks involved with undertaking a mega-project. These risks manifest in misinformation about costs, schedules, and benefits throughout project development and the decision making process. The result is cost overruns, delays, and benefit shortfalls that undermine project viability during project implementation and operations (Flyvbjerg, 2014).

Decision making, planning, and management for mega-projects are typically multi-actor processes involving multiple stakeholders, both public and private, and often with conflicting interests (Aaltonen and Kujala, 2010). Public-private partnerships (PPPs) have gained popularity since the 1980s with governments as a means of effectively delivering large-scale transportation infrastructure projects (Siemiatycki, 2010). According to Siemiatycki (2010, p. 44), “[p]roponents suggest that using PPPs to introduce private financing, competition, and market forces into the procurement of public infrastructure can lead to projects being built sooner than they would be if entirely paid for by governments, reduce project lifecycle costs through greater innovation, introduce more accountable decision making, and reduce construction cost escalations that have consistently plagued infrastructure mega-projects.” The proponents further argue that the private sector is more efficient at allocating resources, and in particular, providing both infrastructure and services at lower costs, while also assuming the risks associated with development (Vining, Boardman, and Poschmann, 2005). Although the private sector is responsible for investing in the project, there are still risks borne by the government including contracting, monitoring, and negotiating costs (Vining et al., 2005). Vining et al. (2005) suggests that public and private sectors often have conflicting goals and consequently these mixed

enterprises can result in ‘the worst of both worlds,’ achieving neither high profitability nor worthwhile social goals.

3. The Pan American Games

The Pan American Games (Pan Am Games) is a major sporting event in the Americas in which thousands of athletes participate in a variety of summer sports competitions. It is held every four years in the year before the Summer Olympic Games. The Pan Am Games are governed by the Pan American Sports Organization, whose structure and actions are defined by the Olympic Charter. Since 2007, host cities have been contracted to manage both the Pan American and the Parapan American Games, in which athletes with physical disabilities compete with one another. The Parapan American Games are held immediately following the Pan American Games.

Toronto hosts in 2015

The most recently held Pan and Parapan American Games, officially called the XVII Pan American Games, were held in Toronto in the summer of 2015. The Games went from July 10 to 26 with preliminary rounds in certain events beginning on July 7. The Parapan American Games followed from August 7 to 15. The Toronto Pan American/Parapan American (collectively referred to as the Pan Am Games) hosted 6,132 athletes from 41 countries across the Americas. There were more than 30 competition venues across 16 municipalities—10 of these were newly built facilities and 15 were renovated to stage the events. Preparations for the Pan Am Games began taking place after Toronto had won the bid to host in November 2009. In addition to venues in Toronto, the other municipalities to host games were Ajax, Caledon, Hamilton,

Innisfil, Markham, Milton, Minden, Mississauga, Mono, Oro-Medonte, Oshawa, Palgrave, St. Catharines, Whitby, and Welland. Never before had Canada hosted a multi-sport event of this size, hosting more athletes than the Vancouver, Calgary and Montreal Olympics (Peterson, 2014).



The 2015 Pan American Games in Toronto
(Source: Photo by Julio Cortez, *National Post*, 2015)

Bidding and Budgeting

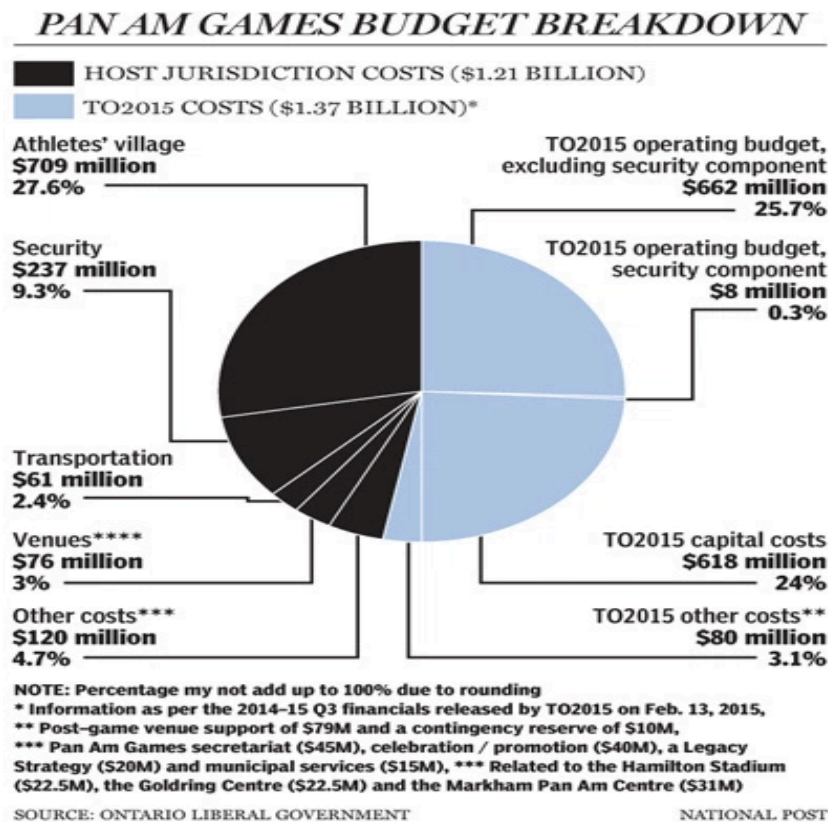
Toronto's interest in bidding for the Pan Am Games came after recent unsuccessful bids to host the 1996 and 2008 Summer Olympics, which were held in Atlanta and Beijing respectively. Toronto, with the support of other communities in the Greater Golden Horseshoe, submitted its official bid book document to the Pan American Sports Organization on May 27, 2009. The other cities bidding in competition against Toronto to host the Games were Lima, Peru and Bogotá, Colombia. On November 6, 2009 it was announced that Toronto had won the bid to host the 2015 Pan American Games. Toronto had won the absolute majority of votes after just

one round of voting by the Pan American Sports Organization Executive Committee, which reported favouring Toronto for its experience in staging multiple sporting events, government guarantees, security, safety, and cleanliness.

While many were excited that Toronto would be hosting its first mega-event, as the Games approached the media reported a lack of enthusiasm by Toronto residents and lacklustre ticket sales (Sachgau, 2015). Residents were described as indifferent and apathetic towards the Pan Am Games and sometimes antagonistic due to excessive costs, traffic disruptions and the fact that “Canada is a country where winter sports predominate, and the Pan Am Games have never been of immense interest” (quoted in Flack, 2015). As one reporter put it, “[i]n Toronto’s fierce desire to be a world class city, the Pan Am Games are viewed as a consolation prize to previous unsuccessful Olympic bids” (quoted in Flack, 2015).

The budget for the Games was originally set at \$1.43 billion, with a cost-sharing plan stipulating that the provincial and federal governments each contribute 35 per cent of the funding, or \$500 million each. This left the City of Toronto, other hosting partners, and games revenue to pay the remaining 30 per cent of the costs (Piercy, 2009). This budget covered only core expenses such as constructing sporting venues and running the games. However, the province added a series of other projects at extra costs. Additional projects include a new \$146 million stadium in Hamilton that hosted soccer games during Pan Am and the \$709 million athletes’ village in the West Don Lands neighbourhood near Toronto harbour used to house over 10,000 competitors and coaches (Morrow, 2013). Now that the Pan Am Games have ended the stadium in Hamilton has become the new home of the Canadian Football League’s Tiger Cats and the buildings in the athletes’ village are being converted to condominiums, social housing, and college dormitories. Ontario’s extra costs also included transportation costs and part of the

security budget which turned out to be higher than initially estimated (Morrow, 2013). The total cost ended up being \$2.5 billion, nearly a billion dollars more than the budget set in 2009 and the highest ever spent on the Pan Am Games. The budget breakdown for the Pan American Games is summarized in the following illustration.



Budget breakdown for Toronto Pan American Games
(Source: Alcoba, *National Post*, 2015)

In the \$2.5 billion budget, \$61 million was spent on transportation, which did not include the Union-Pearson Express. The transportation budget included initiatives to help reduce congestion with the influx of visitors during the Pan Am Games including the designation of high-occupancy vehicle (HOV) lanes, adding temporary Games routes, coordinating bus

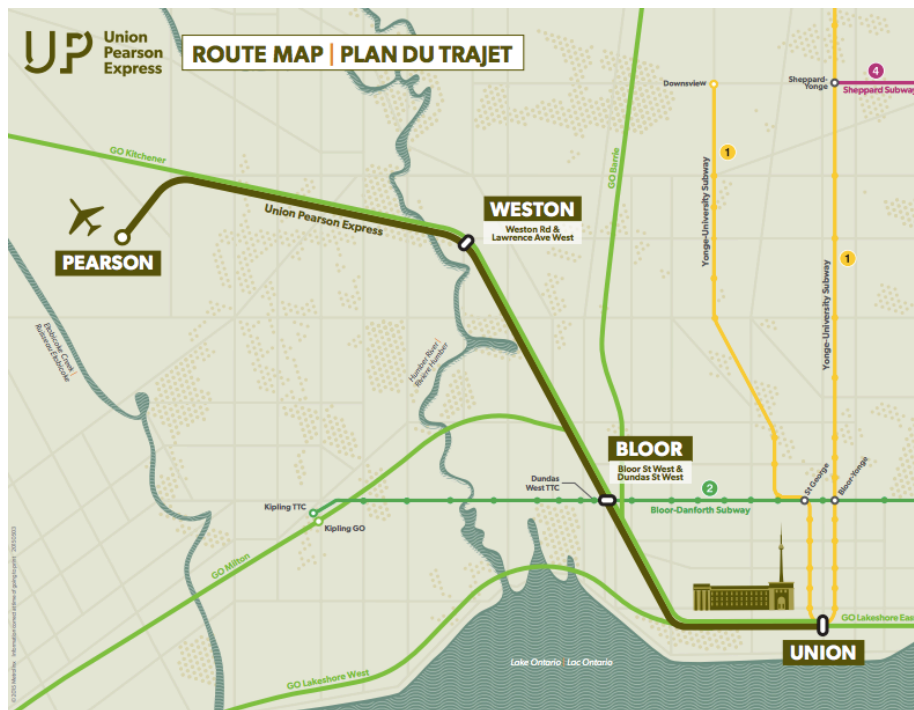
schedules, wayfinding signage, and venue parking. Also included was a \$3.5 million investment from the province in Pan/Parapan Am Trails to help create a continuous trail of more than 2,000 kilometres and connect communities from Ottawa to Windsor and Fort Erie to Huntsville in time for the Games.

4. The Union-Pearson Express Rail Link

One of the major infrastructure projects built for the Pan Am Games was the Union-Pearson Express, a rail link connecting Toronto's downtown with Lester B. Pearson International Airport. While there has been interest in a project of this nature since the late 1980s (see below section for more information), it was only when Toronto won the bid in 2009 to host the 2015 Pan Am Games that a clear deadline for implementation was created. Building the Union-Pearson Express was considered to be a fundamentally important piece of infrastructure that would be necessary to accommodate the influx of visitors not only during the Games, but also to accommodate a growing population in the Greater Toronto Area. Former Ontario Premier Dalton McGuinty announced that the construction of the Union-Pearson Express would begin in the spring of 2012 and would open just in time for the Pan Am Games. He said, "For so many people this is the first impression they get of our province and our country. Being able to get to the centre of our largest city in a fast, efficient way is part of that very first impression" (quoted in O'Toole, 2011).

The Union-Pearson Express (also referred to as UP Express or UPX) is a rail link connecting two of Toronto's busiest transportation hubs – Lester B. Pearson International Airport in Mississauga and Union Station in downtown Toronto, making two intermediate stops

at Bloor and Weston GO stations. The passenger train service travels 23.3 kilometres between Union and Pearson Airport at a speed of 90 kilometres per hour departing every 15 minutes from 5:30 a.m. to 1:00 a.m., seven days a week. The price for a one-way adult fare between Union Station and Pearson Airport is \$27.50, or \$19.00 with a Presto card. Union-Pearson Express is a division of Metrolinx, the Ontario government agency that manages and integrates transportation in the Greater Toronto and Hamilton Area. The trains began operation on June 6, 2015, which was just in time for the 2015 Pan American Games starting on July 10. The rail service is expected to remove 1.2 million car trips from roads across the region in the first year of operation alone and forecasted to carry 2.35 million passengers a year by 2018 (Government of Ontario, 2015a).



Union-Pearson Express Route Map
(Source: Union-Pearson Express, 2015)

History of airport rail link

For a city as large and developed as Toronto, it has been surprising to both residents and visitors that a passenger transportation link from the city centre to the airport only opened in June 2015. Nevertheless there has been interest in improving transit connections to Pearson Airport since at least the late 1980s. This interest is exemplified by three formal studies that were released in 1989, 1990, and 1991 (Metrolinx, 2009):

Transit Access to Lester B. Pearson International Airport final Report (July 1989)

The purpose of the study was to develop and evaluate options for better integration between regional and local public transit and the intra-airport transit system. Undertaken by the Toronto Area Coordinating Office of the Ministry of Transportation, the report identified options for improved transit access to the airport made possible by expansion of local and regional transit services and provided input to the planning of regional gateway facilities in the general area.

Overview of a GO Transit Connection, Pearson International Airport to Downtown Toronto (February 1990)

The study investigated the potential to provide access to Pearson Airport through a connection on the GO Georgetown corridor. Prepared for the Special Advisor to the Premier Waterfront Development, the study provided an assessment of different types of transit technology and operational strategies, the general upgrading requirements for the corridor, and options for a connection from the GO Georgetown corridor to the airport terminals.

Lester B. Pearson and Area Transportation Study, Subway Connection – Kipling Station to Lester B. Pearson Airport Review Paper (November 1991)

Prepared for the Ontario Ministry of Transportation, the purpose of the paper was to provide a broad review of two corridors, Highway 427 and the Richview-Manby hydro corridor, which could be used for a future transit link between Kipling Station on the TTC Bloor subway line and Pearson Airport.

Call for a Public-Private Partnership

In June 2000, then Minister of Transport David M. Collenette announced Transport Canada's intention to pursue a rapid passenger rail service between Pearson Airport and Union Station then referred to as the Air Rail Link. Transport Canada issued a request for expressions of interest in April 2001 in order to assess private sector interest and a potential partnership with the government to finance, develop, design, build, operate, and maintain the Air Rail Link (Transport Canada, 2001). The Air Rail Link would not only ease existing transit congestion but also strengthen Toronto's bid at the time to host the 2008 Summer Olympic Games (*Canadian News Facts*, 2000).

Private sector respondents were asked to outline a vision for the Air Rail Link and comment on how it relates to the objectives and vision of Transport Canada. The following eight objectives formed Transport Canada's vision for the rail link (Transport Canada, 2001, p. 2):

1. Increase mobility by providing a transportation service that is safe, accessible, convenient, comfortable and that meets the needs of the public;
2. Provide a seamless and rapid passenger rail service between Union Station and Lester B. Pearson International Airport;
3. Reduce road congestion by enhancing the movement of passengers and freight on existing rail corridors;
4. Provide an efficient and environmentally responsible passenger service and improve health by reducing greenhouse gas emissions;

5. Complement existing public transit systems and support intermodal transportation options within the GTA;
6. Contribute to the economic development and well-being of the GTA;
7. Promote the use of Intelligent Transportation Systems; and
8. Employ a public-private partnership approach to avoid the use of public funds.

Though Toronto lost the bid to host the 2008 Summer Olympics to Beijing, federal support for the air rail link did not diminish. After expressions of interest were received, Transport Canada issued a request for business cases on May 23, 2003 to four qualified consortia including infrastructure construction companies, and real estate and property development firms:

- GTA LRT Consortium (Aecon Group Inc. and Alstom Canada Inc.);
- Macquarie North America Ltd. and Arup Canada Inc.;
- Pearl Consortium (Bombardier Inc., AMEC E&C Services Inc., in collaboration with strategic partners Hatch Mott MacDonald Ltd. and IBI Group); and
- Union Pearson Group Inc. (SNC-Lavalin Engineers & Constructors Inc., PCL Constructors Canada Inc., Kilmer Van Nostrand Company Ltd., OMERS Realty Corporation, Jones Lang LaSalle Real Estate Services Inc., O&Y Properties Corporation).

The four consortia were asked to prepare a business case that outlines the scope of the work that will need to be undertaken to finance, design, construct, operate, and maintain the air-rail link and set out the terms and conditions stipulated by eleven stakeholders for their involvement in the project (Transport Canada, 2003). These stakeholders were GO Transit, the Canadian National (CN) Railway Company, VIA Rail Canada, Greater Toronto Airports Authority, Ontario Ministry of Transportation, Region of Peel, City of Toronto, City of Mississauga, the

Toronto and Region Conservation Authority, Orlando Corporation, and Woodbine Entertainment Group (Transport Canada, 2003).

Union Pearson AirLink Group

The four business proposals went through a “thorough and fair evaluation process,” which included public and private sector evaluators such as representatives of Transport Canada, the Canadian Transportation Agency, the Railway Association of Canada, the City of Toronto, the Greater Toronto Airports Authority, Canadian National Railway, GO Transit, and Deloitte & Touche, who acted as advisors to Transport Canada on this project (Transport Canada, 2003). On November 13, 2003 it was announced that the Union Pearson AirLink Group, an SNC-Lavalin subsidiary, was selected as the successful respondent to the request for business cases.

The proposed service was called Blue22, as a trip would take 22 minutes to get to or from Pearson Airport with one stop in between at the Bloor GO/Dundas West TTC Station. It would run from Union Station along CN Rail's existing Weston corridor shared with GO Transit commuter services with a new 3.2 kilometre branch line constructed to take trains directly into the airport area (Briginshaw, 2005). Blue22 was not meant to compete with public transit but rather was designed to complement existing transit services by attracting additional ridership to both the TTC and GO Transit's services (Transport Canada, 2003). The plan was to have train service operate 19 hours a day, seven days a week with departures every 15 minutes. It was estimated that the frequent service of the proposed air-rail link would remove between 5,000 and 10,000 cars from Toronto's road system each day (Transport Canada, 2003). The trains were to be refurbished self-propelled Budd Rail Diesel Cars containing new engines, systems, and interiors. Blue22 passenger service was anticipated to start running as early as 2008 with a one-way fare expected to cost \$20 (Transport Canada, 2003). The cost of the project was estimated at

\$200 million which included the design and construction of the 3.2 kilometre spur line, amenities at Union and Bloor Stations, a new station at the airport's new terminal, and the purchase of a fleet of eleven diesel units (Briginshaw, 2005). GO Transit selected SNC-Lavalin to conduct the environmental assessment for the section of the track between Bathurst Street and Bramalea, where GO's Georgetown line and the Blue22 high-speed rail link were to share corridor space. Co-funded by the federal and provincial governments, the assessment was expected to be completed by the end of 2005 and became the subject of considerable public controversy.

Work on SNC-Lavalin's Blue22 project continued quietly through 2004 and 2005, which led to suspicions that the deal was being snuck past local communities (Bow, 2015). Residents in the old village of Weston, around Lawrence Avenue, were particularly alarmed over reports that railway crossings (the intersection where a railway line crosses a road or path) would be blocked off and the neighbourhood would effectively be split in two by the line. They were concerned that the proposed rail line would cause property values in the area to decline and create negative noise and safety impacts as well as dead-end neighbourhood roads. The fact that Blue22 would be using diesel trains as opposed to a more environmentally friendly option was also a matter of contention, as residents feared that the frequent rail service would consequently result in an increase of air pollution in the neighbourhood. Moreover, they considered SNC-Lavalin to be in a conflict of interest because the company was conducting the environmental assessment for the project despite its triple role as the owner, developer, and operator of the proposed rail line.

Concern over the environmental impact assessment process was addressed at GO Transit's board of directors meeting in April 2005. SNC-Lavalin executive Albert Sweetnam reviewed the project for the board and maintained that SNC-Lavalin's staff is qualified to carry out the environmental assessment. He stated that the assessment process would be subject to

scrutiny from dozens of stakeholders, including federal and provincial ministries, municipalities, and other groups, adding that “a private agenda is not possible in such a regulated process” (quoted in Eligh, 2005a, p. 5). GO Transit managing director Gary McNeil supported Sweetnam’s position. For McNeil, “The EA [environmental assessment] process puts everything on the table for scrutiny and ensures that there is no skewing of the facts... [adding] If GO had the expertise in-house, we would be doing the work ourselves” (quoted in Eligh, 2005a, p. 5).

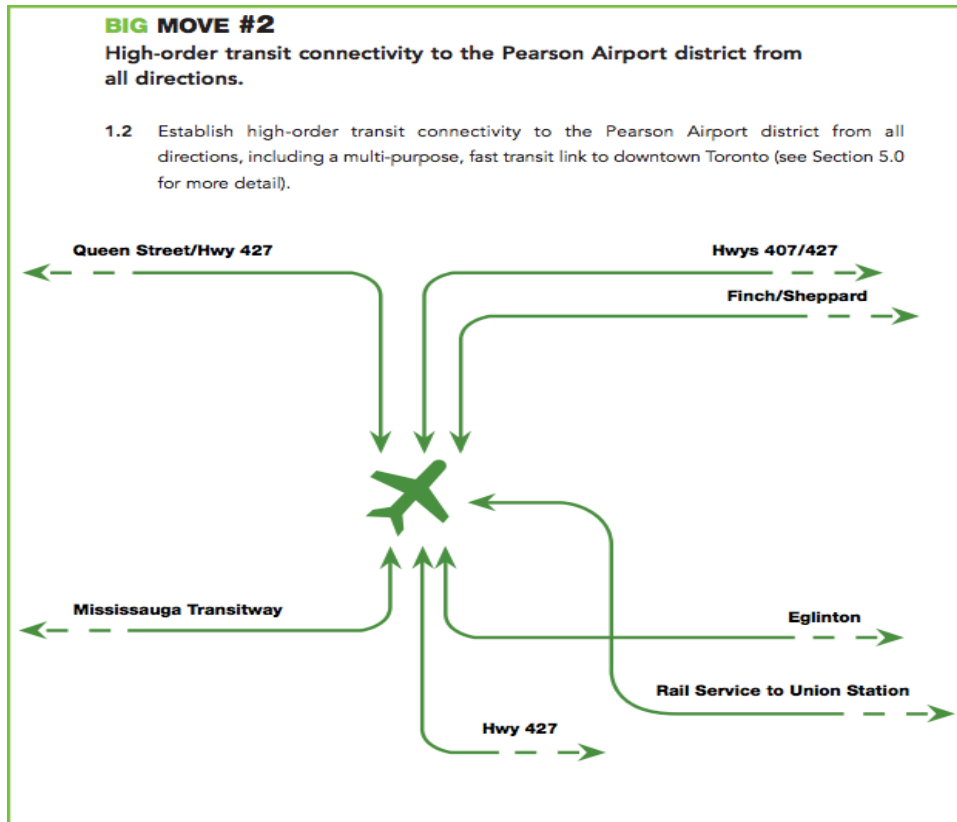
GO Transit board members called for a peer-review of the environmental impact assessment. Board members including Mississauga mayor Hazel McCallion said, “I’m not questioning SNC’s ability to do the job, but there is a conflict... When the public questions conflict there should be an investigation. The only way out is a peer review, whatever it costs” (quoted in Eligh, 2005a, p. 5). Hamilton mayor Larry Di Ianni and Halton Region chair Joyce Savoline supported McCallion’s call for a review. Di Ianni said, “As a board, we should not be taking advice from a group with such a vested interest”, while Savoline opined that whether or not there was actually a conflict of interest, a peer review is necessary to lift the cloud of suspicion around the environmental impacts assessment from the public (quoted in Eligh, 2005a, p. 5). Representatives from local Business Improvement Area and ratepayer groups who attended the meeting raised additional concerns about the environmental assessment process, charging that SNC-Lavalin did not provide adequate notice, and has failed to present a full range of possible options for the proposal, such as the required inclusion of a ‘do nothing’ option (Eligh, 2005a).

Community opposition in Weston was so strong that a public information meeting held in March 2005 had to be shut down by the fire marshal when an estimated 1,500 local residents tried to cram into the 400-person capacity Bethel Apostolic Church to hear what the developers

had to say about the project (Eligh, 2005b). A new meeting was scheduled for April 28 at the much larger 2,200-seat Faith Sanctuary on Jane Street. On the night of the meeting, every seat was filled (Bow, 2015). Residents demanded that major roadways including Weston's Church, John and King Streets be kept open across the railway tracks. In response, SNC-Lavalin proposed that only John Street be closed to vehicles and that a pedestrian bridge will be built for access to the local farmers' market while also offering a new stop to serve Weston itself (Bow, 2015). As the controversy over the environmental impact assessment continued, GO Transit made the promise to retain outside consultants do a peer review of the assessment and recommendations of the project to answer some of the concerns raised by the public. However, progress on the project significantly slowed down over the next few years as community opposition continued. Progress also slowed down when the Conservatives led by Stephen Harper defeated the Liberal government in 2006, which had been the primary backer of the project. Rather, the provincial government had an increasing interest in building a rail link to the airport as part of bigger plans for expanded GO Transit service as explained below.

Metrolinx and *The Big Move Plan*

On April 24, 2006, the Government of Ontario created Metrolinx, an agency with the mandate to improve the coordination and integration of all modes of transportation in the Greater Toronto and Hamilton area. Originally called the Greater Toronto Transportation Authority, the name was changed to Metrolinx in 2007 and a Regional Transportation Plan called *The Big Move: Transforming Transportation in the Greater Toronto and Hamilton Area* was launched in September 2008. Metrolinx merged with GO Transit in May 2009 making GO an operating division of Metrolinx.



Transit corridors for access to Pearson Airport
 (Source: Metrolinx, 2008, p. 24)

The Metrolinx Regional Transportation Plan, *The Big Move*, is a 25-year, \$50 billion plan for coordinated, integrated transportation and transit in the Greater Toronto and Hamilton Area. The Plan identifies the need to establish a dedicated link between downtown Toronto and Pearson Airport. More specifically, the Plan’s second priority action (*Big Move #2*) calls for the need for the development of “high-order transit connectivity to the Pearson Airport from all directions, including a multi-purpose, fast transit link to downtown Toronto” (Metrolinx, 2008). *The Big Move* Plan identifies Union Station and Pearson Airport as two of the most significant mobility hubs in the Greater Toronto and Hamilton Area as tens of thousands of travellers pass through them every day, and over half a million combined jobs are located within less than four kilometres of these hubs (Metrolinx, 2008). Yet, less than one per cent of all travellers at Pearson

Airport arrive by public transit (Metrolinx, 2008). In addition to plans for building a direct rail link between the hubs, *The Big Move* Plan identifies transit corridors in all directions for access to Pearson Airport: from the east along the Eglinton Avenue corridor; from the north via the Finch Avenue transit corridor; from the west via the Highway 403 Transitway and via the Queen Street/Highway 427 corridor; and from the south via Highway 427 from Kipling Station (Metrolinx, 2008).

Public-Private Partnership

The private sector worked on the infrastructure design and the original business model to develop it further into a dedicated airport link, as it was an instrumental part of the City of Toronto's bid for the 2015 Pan/Parapan American Games (Metrolinx, 2014a). By 2008 there had not been significant progress on the project due to failed consensus in negotiations, regulatory hurdles, and the ongoing opposition from communities along the rail corridor. With Metrolinx's Regional Transportation Plan calling for improved transit connectivity to and from Pearson Airport, the province entered into negotiations with the Union Pearson AirLink Group for a public-private partnership. The Ontario government revised the environmental impact assessment process in June 2008 making Metrolinx the proponent of a new environmental impact assessment review that would simultaneously assess a combination of both the Union-Pearson rail link and GO Transit's Georgetown South expansion. The province allowed for the environmental assessment to be done in just six months whereas it usually requires three years. The final Environmental Project Report was released on July 30, 2009.

The role of the province became even more prominent in the rail link project when in April 2009, GO Transit purchased the Weston railway subdivision from the privatized CN Railway for \$160 million (GO Transit and CN Railway Company, 2009). The line runs roughly

from the Strachan Avenue grade crossing to the junction with the CN York subdivision at Steeles Avenue. The acquisition of the corridor aligned with GO Transit's Strategic Plan, *GO 2020*, to add more service, build new infrastructure, and expand its operations along that line. *GO 2020* is a strategic plan released in 2008 outlining the vision, objectives and goals, and service strategy for GO Transit to the year 2020. The purchase of the Weston subdivision brought the corridor to be used by Blue22 under provincial, rather than private, control.

In 2009, the private sector pulled out of the agreement for the Air Rail Link citing the global economic downturn, fearing it would be unable to raise the financing needed to deliver the project (Metrolinx, 2014a). The Ministry of Transportation and Metrolinx thereafter assessed the feasibility of taking over the responsibility for the project and in 2010, the provincial government reassigned the responsibility of the project to Metrolinx. With Toronto winning the bid in 2009 to host the 2015 Pan American Games, a clear deadline for the project completion had been created. The project was subsequently reconfigured to be delivered in three phases: the plan and design phase from mid-2010 to mid-2012, the build phase starting in mid-2012 to March 2015, and finally the operation phase from April 2015 onwards (Metrolinx, 2014a). Metrolinx also established a new operating division for the project that would become the Union-Pearson Express.

Rebranding and Construction

Formerly referred to as the Air Rail Link, Metrolinx unveiled that the new official name for the project was the Union-Pearson Express, on November 29, 2012 (Metrolinx, 2012). Metrolinx largely followed the same project scope that had been previously approved in the environmental impact assessment, with the service designed for air travellers rather than conventional commuters. Changes from SNC-Lavalin's former proposal included stops at both

Weston and Bloor GO Stations and other refinements to take into account synergies with GO Transit.

On October 24, 2011, Metrolinx awarded AirLinx Transit Partners, a consortium comprising some of Canada's biggest construction companies including Aecon Construction and Materials Ltd. and Dufferin Construction Co., the contract to build the three kilometre spur line that would break away from the Kitchener GO tracks and run to the airport. The connection started just west of Highway 427 and follows the sides of Highways 427 and 409 before rising onto an elevated guideway weaving through the Pearson Airport access roads to a new stop atop Terminal 1. Construction of the spur line and passenger station at Pearson Airport began in the spring of 2012 at a cost of \$128.6 million, with the entire project costing \$456 million to build and another \$68 million annually to operate it (Ferguson, 2011).

While the Union-Pearson Express was considered of utmost importance for accommodating the influx of visitors during the Pan Am Games, the project was not part of the budget for the event. Rather, the construction of the Union-Pearson Express was undertaken as part of GO Transit's Georgetown South railway expansion project, one of the key elements identified in *The Big Move*. The Georgetown South railway expansion also included widening the former two-track railway to four tracks, with a total of eight tracks where the Milton line and Barrie line share the corridor. The work for the Union-Pearson Express consisted of five new road overpasses and two road underpasses, one railway grade separation, one bridge reconstruction and the widening of 15 other bridges, construction/re-construction of four stations, major track and grading construction, signal installations utility relocations, as well as the new 3.3 kilometre spur to and from the airport (GO Transit, 2015).

Rolling stock

The Union-Pearson Express uses Nippon Sharyo Diesel Multiple Unit trains, a diesel-powered, self-propelled passenger rail car that can respond to local or remote throttle and brake commands. Metrolinx initially purchased 12 cars (or more precisely six two-car trains) in March 2011 at a cost of \$53 million but this was later expanded to 18 cars operating as three-car or two-car sets (*Railway Gazette*, 2011). The trains are capable of traveling up to 145 km/h, but because of the curves on the track, they will operate at 25 km/h in some places and 90 km/h in straight areas. The cars were manufactured in Japan, assembled in Chicago, and towed by rail to Toronto with the first train set arriving on August 15, 2014 (Union-Pearson Express, 2015). The train sets accommodate between 115 and 173 passengers making a total of approximately 140 trips daily. On-board features include power outlets, Wi-Fi, luggage facilities, and washrooms.



The Union-Pearson Express train at Union Station
(Source: UP Express, 2015)

The Union-Pearson Express cars are based on the design created for the Sonoma-Marín Rail Transit system in California. They are powered by a diesel hydraulic drive with a six-speed automatic transmission and regenerative braking. These cars are said to be the first ‘clean diesel’ trains in the world as they comply with the United States Environmental Protection Agency Tier 4 emission standards, engineered to reduce some emissions by up to 90 per cent (Kalinowski, 2015a). The cars also comply with the Federal Railroad Administration’s (an agency in the United States Department of Transportation) Tier 1 crash energy management features. Braking energy is converted into electricity by the auxiliary power generation and helps to provide onboard lighting and heating (Sonoma Marin Area Rail Transit, 2010).

Fares and Ridership so far

The price for a one-way adult fare between Union Station and Pearson Airport is \$27.50, or \$19.00 with a Presto card. Otherwise fares range based on age, origin and destination, and the method of payment. VIA Rail tickets are also accepted as a form of payment for those travelling by train to and from other places in Canada given an interline agreement between Union-Pearson Express and VIA Rail. The fares have been criticized for being the most expensive in North America and uneconomical for commuters travelling in groups of two or more who would find sharing a cab ride cheaper and convenient from most parts of Toronto (Haider, 2015). The following chart depicts a breakdown of the Union-Pearson Express fares.

		One way to/from Pearson			Round Trip to/from Pearson			One way non-Pearson	
		Union	Bloor	Weston	Union	Bloor	Weston	2 Stops	1 Stop
PRESTO	Adult	\$19.00	\$15.20	\$11.40	-	-	-	\$15.20	\$11.40
	Student	\$16.15	\$12.90	\$9.70	-	-	-	\$12.90	\$9.70
	Child	\$9.50	\$7.60	\$5.70	-	-	-	\$7.60	\$5.70
	Senior	\$16.15	\$12.90	\$9.70	-	-	-	\$12.90	\$9.70
Without PRESTO	Adult	\$27.50	\$22.00	\$16.50	\$53.00	\$42.00	\$31.00	\$22.00	\$16.50
	Student	\$23.40	\$18.70	\$14.05	\$44.80	\$35.40	\$26.10	\$18.70	\$14.05
	Child	\$13.75	\$11.00	\$8.25	\$25.50	\$20.00	\$14.50	\$11.00	\$8.25
	Senior	\$23.40	\$18.70	\$14.05	\$44.80	\$35.40	\$26.10	\$18.70	\$14.05
	Family	\$55.00	\$44.00	\$33.00	-	-	-	\$44.00	\$33.00
	Meet & Greet	-	-	-	\$27.50	\$22.00	\$16.50		
	Long Layover	-	-	-	\$27.50	-	-		

Onboard Payment Fee	\$2
Accessibility Companion	Free
Minor (<6)	Free

The Union-Pearson Express Fare Chart
(Source: Metrolinx, 2014b)

In its first week of operation, 1,407 out of 1,422 Union-Pearson trips between June 6 and 14 were completed on schedule giving an average on time performance of 98.9 per cent (Peat, 2015). Based on feedback from a first impressions survey in the weeks following the launch, travellers were very pleased with the speed, reliability, and available amenities, with 87 per cent of the respondents very likely to ride Union-Pearson Express again and 85 per cent would recommend the service to others (Haley, 2015).

Metrolinx projected that in its first year of operation the Union-Pearson Express would attract around 5,000 riders per day (Peat, 2015). However, according to the grassroots transit advocacy group TTCriders, the Union-Pearson Express trains were running nearly empty during the Pan Am Games (Bell, 2015). On July 15, 2015, about midway through the Games, TTCriders members counted riders exiting and entering the Union-Pearson Express at Pearson Airport during the morning rush hour from 7:30 to 9:30 a.m. They observed an average of 14 passengers

on average on each train, translating to approximately 8 per cent of the 173 seat capacity (Bell, 2015). These figures were not too far off the official Metrolinx ridership numbers announced in July 2015. A month after opening Metrolinx spokesperson Anne Marie Aikins said that the rail link was averaging 3,250 riders a day, or 12 per cent of full capacity (Peat, 2015). Aikins added that the ridership so far was nonetheless “on track with ridership predictions” to hit 5,000 a day by next year, and that Metrolinx was “very pleased with the numbers so far” (quoted in Peat, 2015).



Empty Union-Pearson Express train on during Pan Am Games on July 15, 2015
(Source: Bell, 2015)

Ridership has not improved since the summer of 2015. The Union-Pearson Express Quarterly Board Report released on September 22, 2015 reveals that the average ridership is 2,500 passengers a day (Haley, 2015). The report’s author, Union-Pearson Express president

Kathy Haley (2015, p. 1) states: “Given that UP Express is a brand new service in the region, we are very pleased with ridership so far. Average daily ridership since launch is approximately 2,500 and is expected to grow until maturity, in the next 3 to 5 years. As we increasingly understand our guests and the market, we anticipate that we will reach our daily ridership target of 5,000 riders by the end of the first full year of operation.” However, *The Globe and Mail* reporter Oliver Moore (2015) points out that the 2,500 a day ridership figure from the report “obscures a grimmer reality revealed by the day-to-day numbers, which weren’t in the report.” According to Moore (2015), in order to break even with operating costs, the service needs about 7,000 riders a day, which Metrolinx aims to reach within three to five years.

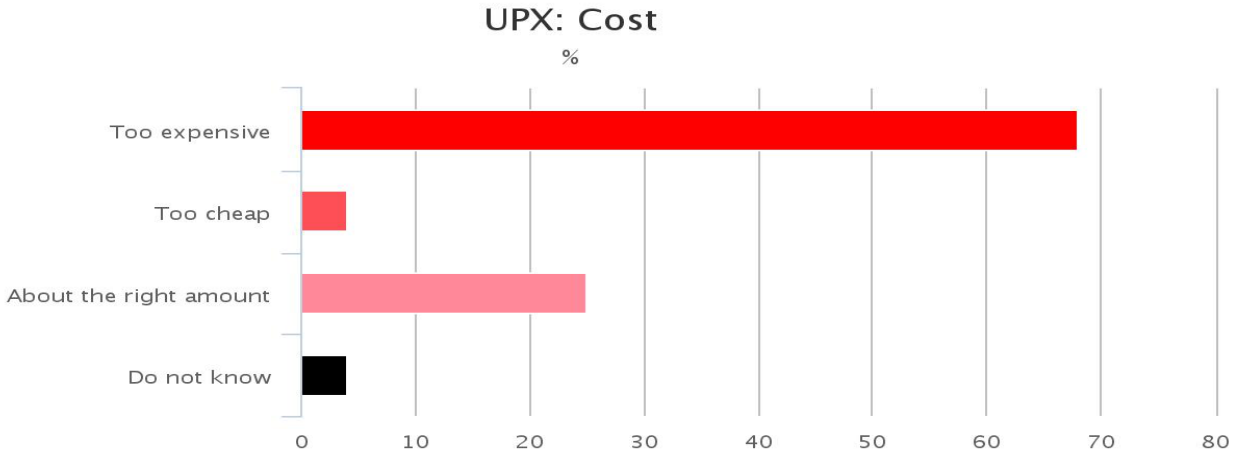
5. Criticisms of the Union-Pearson Express

The Union-Pearson Express has generated a considerable amount of criticism for a variety of reasons. The following section is a review of news media sources including print media such as newspaper and magazine articles, broadcast news including radio and television, as well as Internet sources such as blog posts and websites. Based on these sources it appears as though the most commonly cited criticisms of the project relate to the high cost of fares, having limited stops along the route, and for using diesel trains rather than electric. This section examines these three major areas of contention with the subsequent section looking deeper at the social and economic implications of the project.

Fares too expensive

One of the most commonly cited concerns with the Union-Pearson Express is that the fares are simply too high for most people. The price of a one-way adult ticket between Union

Station and Pearson Airport is \$27.50 for the 25-minute journey. The price to take the Union-Pearson Express seems especially exorbitant when compared to other airport-to-downtown direct rail services found in other North American cities. It costs \$9.00 in Vancouver, \$13.61 in New York to Newark Airport or \$7.50 to John F. Kennedy Airport, and \$5.44 in Chicago. Nearly 70 per cent of respondents in a poll conducted by Forum Research in early August said that the fare was too high, with another 25 per cent saying that the price is about right (Forum Research Inc., 2015). The data comes from an interactive voice response telephone survey where 892 Toronto voters were randomly selected.



Poll results regarding the price of fares for the Union-Pearson Express
 (Source: Forum Research Inc., 2015)

Alternative public transportation options to get to and from Pearson Airport include taking a TTC or GO Transit bus and these options are significantly cheaper than the Union-Pearson Express, but much slower given the fact that they share highways with automobile traffic. The GO bus service from North York to the airport costs \$6.00 for an adult with buses running every hour or every 30 minutes during rush hour. To take the TTC there are two daytime options to get to and from Pearson Airport. There is the 192 Airport Rocket with only three stops

between Kipling Station and Pearson Airport. These buses include luggage racks and take approximately 20-25 minutes in travel time with service running every 10 minutes. The other option is the 52A bus from Lawrence Station and Lawrence West Station with multiple stops in between the airport. This route takes approximately 90 minutes during peak travel times and 70 minutes during off-peak periods. Cash fare for the TTC is \$3.00 including free transfers to or from other routes as needed to complete one's journey. While the TTC and GO buses are cheaper, the Union-Pearson Express clearly provides a faster and more reliable transit service as the buses may be subject to traffic delays. Nevertheless ridership on the TTC's Airport Rocket is 4,500 passengers a day which is nearly double the latest ridership figures for the Union-Pearson Express (Kalinowski, 2014).

The fare to take the Union-Pearson Express may appear to be much more affordable when compared to the price of taxicab service to and from Pearson Airport. Cab fares are set by the zone travelled to or from in the city but typically cost between \$50-60 and take approximately 30 minutes for downtown locations. The fares and travel time are even higher for locations in the east end of the city. However, the cost of a taxi is per car and not per passenger and thus up to four passengers can fit into a standard car paying one fare. Therefore if two or more people are travelling to and from the same location, taking a cab is likely to be the cheaper option. It is even more affordable to use a ride share service such as Uber where fares are generally less than a taxicab.

Not only are taxicabs more affordable for non-solo travellers, they are easier and more convenient for most in the city than taking the Union-Pearson Express. Unless you are within walking distance of Union, Weston, or Bloor Stations, passengers of the Union-Pearson Express will likely need to use another form of transportation to get to and from the train's station stops

and pay a separate fare. The convenience of having a cab take you from door-to-door is more desirable than having to transfer from one line of transit to the next for many people. For those visiting the city, taking the Union-Pearson Express followed by a subway or bus can be overwhelming when they are not familiar with it. People are often exhausted after a flight and want to get to their destination in the easiest way possible, especially if they are carrying luggage.

Limited stops along the route

The rationale behind having only two stops between downtown and the airport was to provide quick and reliable service. According to Diaz (1999), limiting the number of stops and planning for higher speed services maximizes accessibility benefits. The original plans for the rail link prior to the Metrolinx takeover was that Bloor Station would be the only interim stop between Union Station and Pearson Airport. After strong opposition from the Weston community, a second interim stop was added at Weston GO Station in order to make the project more appealing and beneficial to the residents. The Weston Community Coalition, a residents organization formed in 2005 in opposition to the Air Rail Link, called for a 10-stop rapid-transit subway line built between Pearson Airport and Union Station to provide public transportation for the hundreds of thousands of residents in the western part of the city (Wyatt, 2005). Rather, the Union-Pearson Express was designed to be a luxury express service and not a commuter line. For this reason the project is criticized for having a marginal impact on addressing traffic congestion in the Greater Toronto Area and wasting transit funds that should have gone to projects that would deliver a higher increase in transit ridership (Haider, 2015). Nevertheless building a commuter line with multiple stops along the route to and from Pearson Airport was nearly impossible with the timeline set by the Pan Am Games.

Diesel locomotives

It surprised many when it was announced that a new railway line opening in 2015 would be using diesel trains, given everything now known about the environmental dangers of fossil fuels and the availability of clean energy sources. The use of diesel fuel for the Union-Pearson Express has been a contentious issue generating significant criticism towards the project. Diesel is a non-renewable energy source that exhausts a complex mixture of gas and fine particles. The primary pollutants from diesel fuel are particulate matter, carbon monoxide, nitrogen oxides, hydrocarbons, volatile organic compounds as well as other hazardous air pollutants. Despite the warnings by Toronto's Medical Officer of Health and the 2012 World Health Organization's report putting diesel exhaust in the same deadly league of carcinogens as arsenic, asbestos and mustard gas (Schein and Cash, 2013), Metrolinx opted for diesel trains because there was not enough time to build an electric train line in time for the Pan Am Games.

The Pan Am Games set a clear deadline for the Union-Pearson Express project to be completed, as the rail link would be necessary to accommodate the influx of visitors during the event. Metrolinx president Gary McNeil announced in 2010 that there would be no way that the project could be electrified in less than five years and said, "The simple message [is] it can't be electrified in time for the Pan Am Games" (quoted in Grant, 2010). McNeil argued it would be impossible to complete an environmental assessment, obtain the approvals to build a hydro substation to power the line, and construct and test the system before 2015 (Grant, 2010).

Metrolinx defended its decision to use diesel trains by stating that it selected "state of the art Tier 4 diesel; the cleanest diesel option available" (Metrolinx, 2014a, p. 3). Metrolinx also said that it plans on converting the diesel trains to electric in the future. While the trains may be 'the cleanest option available' for diesel, they still produce harmful pollutants that are detrimental to

the environment and the health of Toronto residents, especially those living along the rail corridor.

Exposure to diesel exhaust has been linked to cancer and respiratory diseases. Studies have found that railway workers, truck drivers, heavy equipment operators, and professional drivers have an increased risk of developing cancer from exposure to diesel exhaust. Moreover, a study by the University of Washington found that homes near rail lines face increased exposure to harmful microscopic particles from diesel emissions (Hoekstra, 2014) and thus residents in these areas are more likely to develop related diseases. Aware of the health risks involved with diesel trains, residents along the Kitchener-Georgetown rail corridor in the west end of Toronto formed the Clean Train Coalition in April of 2009 in response to Metrolinx's plans for the Georgetown South Service Expansion and the Union-Pearson rail link. In 2012 the Clean Train Coalition took Metrolinx to the Ontario Divisional Court arguing that Metrolinx had no business ordering new diesel trains for the Union-Pearson Express prior to completing a feasibility study on electrifying the line (Kalinowski, 2012a). Metrolinx's lawyer John Laskin said that the agency was legally bound to follow the government's direction and argued that Metrolinx was authorized to proceed with an order for the diesel trains based on government approvals and the identification of the airport rail link as a priority in *The Big Move* Regional Transportation Plan (Kalinowski, 2012b). Ultimately the case was dismissed and the Clean Train Coalition was ordered to pay Metrolinx \$30,000 in costs.

Diesel trains are noisier than electric which is another major area of concern for residents living along the rail corridor. In order to mitigate noise impacts on the adjacent residential communities, the province constructed five-metre tall noise walls along the route as required. Many residents have expressed outrage that the walls divide their communities, break up the

urban forest, and become canvasses for graffiti (Schein and Cash, 2013). Residents also opposed the walls for being an eyesore for their communities. In 2013, members of the Junction Triangle Rail Committee and Wabash Building Society hired award-winning landscape architects James Brown and Kim Storey to draft an alternative plan. The proposal was called “Sharing Boundaries” where the noise barrier walls would be ‘green walls’ with vegetation growing inside metal caging intermingled with 10,000 trees along the rail corridor as well as seven new pedestrian bridges that would connect linear park pathways on each side of the tracks (Ballingall, 2013). The proposal maintained that if the concrete walls are deemed to be necessary than the green walls could go beside them to improve aesthetics. In response to the green wall proposal, Metrolinx spokesperson Manuel Pedrosa defended that the five-metre barriers are mandated by the Ministry of Transportation and that Metrolinx does not own enough room to implement a green wall or park space in many places along the corridor (Ballingall, 2013).



“Sharing Boundaries” proposal for green walls along the Union-Pearson Express rail corridor
(Source: Brown + Storey Architects Inc., retrieved from Ballingall, 2013).

The “Sharing Boundaries” proposal never came into fruition and to make matters worse for the residents, Metrolinx had originally promised that all noise walls would be complete when the Union-Pearson Express service opened on June 6. However, in May it was announced that only the noise walls that are required to launch the Union-Pearson Express would be completed on time. Metrolinx spokesperson Anne Marie Aikins said that the additional noise walls, including in the MacDonell Avenue area, were “delayed by harsh weather and also because some residents didn’t want certain trees cut down. So we had to stop work [and] regroup” (quoted in Pom, 2015).

In a June 2015 interview, Metrolinx CEO Bruce McCuiag was asked, “Is there a date and money on the table to retrofit this dirty diesel to clean efficient electric before carcinogens infiltrate the air of Toronto residents?” (quoted in Kalinowski, 2015b). McCuiag responded, “The recent provincial budget set aside funding for Regional Express Rail, which includes electrification of the corridors, including UPX. We are folding the UPX electrification into the electrification of the Kitchener corridor as far as Bramalea, and we expect electrification to start being operational on five of the lines in 2023” (quoted in Kalinowski, 2015b). The provincial government announced in April 2015 that it would be investing billions of dollars to the improvement and electrification of Regional Express Rail, which includes the Union-Pearson Express. However, no specific funding has been committed to the converting the Union-Pearson Express trains. With trains departing every 15 minutes, seven days a week, the Union-Pearson Express will emit a lot of air pollution before it is retrofitted and electrified in eight years at the very earliest.

6. The Winners and Losers of Pan Am and the Union-Pearson Express

When Toronto won the bid to host the 2015 Pan American Games back in 2009, many regarded it as a victory for the city after Toronto had unsuccessfully bid to host the Olympic Games. The 2015 Pan Am Games are generally regarded as a success for running smoothly and coming in on budget. In regard to meeting the budget for the Pan Am Games, Tourism, Culture and Sport Minister Michael Coteau said, “I can say with confidence that we did what we set out to do” adding, “[w]e successfully delivered the largest, most transparent multi-sport games ever held in this country” (quoted in Benzie and Ferguson, 2015). Toronto’s success in hosting the Pan American Games opened up the discussion by city officials and the Canadian Olympic Committee as to whether a bid should be made for Toronto to host the 2024 Summer Olympic Games. Hosting the Olympics in Toronto would be more feasible now than ever before thanks to changes to the Olympic philosophy and bidding process announced by the International Olympic Committee in December 2014. Among these changes was a decision “to actively promote the maximum use of existing facilities” and the use of temporary venues (quoted in Hunter, 2015). This statement means that the venues built for the Pan Am Games may not have initially met the International Olympic Committee requirements but they could be adapted to comply under the new approach (Hunter, 2015). While it was seriously considered, mayor John Tory announced in September 2015 that Toronto would not be making an Olympic bid citing tight timelines, a lack of private sector interest, and issues getting commitments from senior governments.

Hosting a major sporting event can bring a variety of economic benefits to a city which is why Toronto sought to host the Pan American Games. When it bid for the games in 2009, the provincial government produced an economic impact analysis that concluded that the Pan American Games would grow Ontario’s real GDP by \$3.7 billion and would create 26,000 jobs

from 2009 to 2017 (Government of Ontario, 2015b). Moreover, the province predicted that a quarter of a million visitors would come to Toronto for the Games boosting the local economy by increasing sales and revenue for hotels, tourist attractions, restaurants and shops (Government of Ontario, 2015b). Sources estimate that the Pan Am Games ended up attracting 1.4 million visitors to the Greater Toronto Area (Benzie and Ferguson, 2015).

Another reason that cities desire to host a mega-event is because it encourages investment in infrastructure and transit improvement. Staging a mega-event usually requires upgrades to transport links to reduce congestion and help to improve efficiency for local businesses and residents, and this investment in transport infrastructure leaves a lasting legacy for the whole economy. The Pan Am Games catalyzed many infrastructure development projects such as the new stadium built in Hamilton and the redevelopment of the former industrial West Don Lands to create a mixed-use development and the site of the athletes' village. The Pan Am Games can also be regarded positively for fast-tracking the completion of the Union-Pearson Express after it had been stalled for so many years. The infrastructure created for, or accelerated by the Games, will strengthen Toronto's bid to host another mega-event if it chooses to do so in the future.

While the Pan Am Games may be regarded as a success, how do we measure and evaluate the success of the infrastructure built for the games, specifically the Union-Pearson Express? If it were not for the Pan Am Games setting a deadline for the completion of the Union-Pearson Express, who knows how many more years it would take before a rail link would be built. In a city that has made little investment in transit over recent decades, the Union-Pearson Express brought a glimpse of hope that if Toronto wants transit, it can have transit, and it does not need to take decades to build. North American cities similar to the size of Toronto have long had rapid transit options connecting the city centre to the airport while Toronto's was only built

in 2015. Thus, the Pan Am Games can be commended for successfully accelerating a much-needed piece of transit infrastructure for Toronto. In 2014, Pearson Airport handled 38,572,416 passengers averaging to approximately 105,600 passengers a day and employs approximately 40,000 people (Greater Toronto Airports Authority, 2015). It is the busiest airport in Canada and second busiest in North America after John F. Kennedy International Airport in New York City. With so many travellers using Pearson Airport it is easy to see why the Union-Pearson Express was considered a priority project that needed to be completed prior to the Pan Am Games, as it was expected that there would be an influx of visitors coming to Toronto through Pearson Airport for the Games. Completing the Union-Pearson Express on time for the Pan Am Games and after it had been delayed for so many years may be hailed as a victory in some sense. The victory, however, is only short-term in meeting the objectives of the Pan American Games. The anticipated breakeven after three to five years of operation appears extremely doubtful as the ridership levels are likely to continue to be much lower than expected.

The poor ridership figures can be attributed to the high fares, for not being better integrated with existing transit infrastructure and for having limited stops along the route, making the service inconvenient and inaccessible for many. It will very likely not breakeven on operations after three to five years and will thus be a financial burden for Ontario taxpayers without meeting the needs of its residents. From a planning perspective, the Union-Pearson Express was a missed opportunity for improving regional transit in the Greater Toronto Area. It is failing to attract the ridership necessary to meet the objectives of the Regional Transportation Plan, *The Big Move*, in reducing automobile dependency and road traffic congestion (Metrolinx, 2008). The fares alone are enough to deter many Torontonians from using the service. It is convenient largely for single passengers travelling to or from downtown hotels and businesses.

Even if the Union-Pearson Express met Metrolinx's ridership expectations at 5,000 passengers a day within the first year of operation, this would only have a marginal impact on reducing traffic congestion in the Greater Toronto Area. The overcrowded King Street streetcar in downtown Toronto, by comparison, carries in excess of 65,000 daily riders (Haider, 2015). Had the Union-Pearson Express been planned to have more stops and connect to more neighbourhoods, the ridership numbers would likely be much higher and noticeably reduce traffic congestion on both the roads and the TTC.

Shortcuts were taken on the project in order to have the train service up and running in time for the Pan Am Games. In addition to only having two interim stops, the most obvious and controversial shortcut was the use of diesel locomotives because an electric train system could not be built in time for Pan Am. While the province has announced that the electrification of the Union-Pearson Express is a priority transit project, it is estimated that the electrification will only start being operational in 2023 at the earliest (Kalinowski, 2015b), assuming available funding. The retrofitting of the trains from diesel to electric will presumably be a costly endeavour and an expense that could have been avoided if the Union-Pearson Express was done right in the first place, meaning, electric trains from the outset.

The other "losers" here are the communities that fought against the proposed plans of the Union-Pearson Express and ultimately lost. The neighbourhoods surrounding the Union-Pearson Express rail corridor wanted the line to have more stops and be more of a commuter service so that it would benefit the transit needs of local communities. Community groups in the Weston and Junction Triangle neighbourhoods also fought and lost against the use of diesel trains and the construction of unattractive noise barrier walls. When the Union-Pearson Express trains became operational the noise walls were not yet completed along the route. Residents living along the

corridor complained about the warning bells that ring when a train is pulling into a station. With train service running every 15 minutes, the Union-Pearson Express bells sound an average of once every seven and a half minutes around stops, and some people living near the Bloor GO Station have said that the noise is keeping them up at night (Spurr, 2015). In response to the noise complaints from the bells, Metrolinx manager of community relations Manuel Pedrosa said, “[a]t Metrolinx, safety is our number one priority; safety of our passengers, our neighbours, and our workers” (quoted in Spurr, 2015). He added that while “there’s no question that we regret the inconvenience” the bell ringing has caused, “it’s a Transport Canada regulation. We’re required to follow it” (quoted in Spurr, 2015).

7. Concluding Remarks

This research paper has attempted to shed light on how a mega-event can act as a catalyst for the acceleration of infrastructure development projects using Toronto as a case study. It has long been recognized that Toronto, like other major cities, needed a rail link connecting it’s downtown and primary airport. However, the Union-Pearson Express was implemented in a timeframe to meet the short-term objective of completion for the Pan American Games with the long-term costs associated with underutilization, diesel trains rather than electric, and limited stops along the route.

Major infrastructure projects, or mega-projects, constructed in relation to an international event often become legacies to the host city once the event has ended. The urban legacies that mega-events can create in cities have incited massive investments, promised long-term benefits for residents, and are one of the main reasons why citizens are supportive of the bid. Though the

Union-Pearson Express was not solely built for the purpose of the Pan Am Games, it is certainly a legacy of it. The lesson to be realized from this case study is that in order to be successful, a city needs to use a mega-event to achieve its own set of long-term objectives. Otherwise the project will be a missed opportunity for urban regeneration and leave behind a white elephant instead of a valued legacy for the host city.

Bibliography

- Aaltonen, K., and Kujala, J. (2010). A project lifecycle perspective on stakeholder influence strategies in global projects. *Scandinavian Journal of Management*, 26, 381–397.
- Alcoba, N. (2015, February 27). Pan Am organizers feeling “confident” about latest progress, but struggling to make Toronto care more. *National Post*. Retrieved from <http://news.nationalpost.com/toronto/pan-am-organizers-feeling-confident-about-latest-progress-but-need-to-find-a-way-to-make-toronto-care>
- Ballingall, A. (2013, August 21). Metrolinx’s “huge” sound walls draw citizen protest — and ideas for a greener alternative. *The Toronto Star*. Retrieved from http://www.thestar.com/news/gta/transportation/2013/08/21/metrolinx_huge_sound_walls_draw_citizen_protest_and_ideas_for_a_greener_alternative.html
- Bell, J. (2015, July 17). UPX train is running virtually empty during the Pan Am Games. Retrieved from <http://www.ttcriders.ca/the-upx-train-is-running-virtually-empty-during-the-pan-am-games/>
- Benzie, R., and Ferguson, R. (2015, November 5). Pan Am Games came in on budget. *The Toronto Star*. Retrieved from <http://www.thestar.com/news/queenspark/2015/11/05/pan-am-games-came-in-on-budget.html>
- Bow, J. (2015, June 25). The Union-Pearson Express. *Transit Toronto*. Retrieved from <http://transit.toronto.on.ca/regional/2113.shtml>
- Briginshaw, D. (2005, April). Toronto to have a private airport rail connection: the Union Pearson Air Rail Link, also known as Blue22, will be a privately owned and operated rail service that will link the centre of Toronto with the city’s international airport. *International Railway Journal*, 45(4), 35.
- Building BRICs of growth. (2008, June 7). *The Economist*, pp. 37–38.
- Diaz, R. B. (1999). Impacts of Rail Transit on Property Values. In *Commuter Rail/Rapid Transit*. Retrieved from <http://reconnectingamerica.org/assets/Uploads/bestpractice083.pdf>
- Eligh, B. (2005a, April 13). GO Considers Conflict Allegations: Peer review for Union-Pearson EA? *Novae Res Urbis*, 8(14), 1 and 5.
- Eligh, B. (2005b, April 29). Union-Pearson saga continues. *Novae Res Urbis*, 9(16), 5.

- Essex, S., and Chalkley, B. (1998). Olympic Games: catalyst of urban change. *Leisure Studies*, 17(3), 187–206.
- Ferguson, R. (2011, December 19). The 25-minute train trip between Union Station and Pearson requires building a 3-km spur off the Georgetown GO line. *The Toronto Star*. Retrieved from http://www.thestar.com/news/canada/2011/12/19/construction_to_start_in_spring_on_airport_rail_link.html
- Flack, D. (2015, July 10). New York Times skewers Toronto over Pan Am apathy. Retrieved November 17, 2015, from http://www.blogto.com/sports_play/2015/07/new_york_times_skewers_toronto_over_pan_am_apathy/
- Flyvbjerg, B. (2007). Cost Overruns and Demand Shortfalls in Urban Rail and Other Infrastructure. *Transportation Planning and Technology*, 30(1), 9–30.
- Flyvbjerg, B. (2014). What You Should Know About Megaprojects and Why: An Overview. *Project Management Journal*, 45(2), 6–19.
- Forum Research Inc. (2015, August 5). UPX seen to be more expensive now, fewer likely to use. Retrieved October 25, 2015, from <http://poll.forumresearch.com/post/339/incorporate-upx-into-ttc-at-lower-fare-majority/>
- Gibson, O. (2013, October 9). Sochi 2014: the costliest Olympics yet but where has all the money gone? *The Guardian*. Retrieved from <http://www.theguardian.com/sport/blog/2013/oct/09/sochi-2014-olympics-money-corruption>
- GO Transit. (2015). Georgetown South Project. Retrieved from <http://www.gotransit.com/gts/en/project/default.aspx>
- GO Transit and CN Railway Company. (2009, April 8). GO Transit acquires important CN Rail line for expanded commuter rail service in the Greater Toronto Area [Press Release]. *Canadian Newswire*. Retrieved from <http://archive.newswire.ca/en/story/414901/go-transit-acquires-important-cn-rail-line-for-expanded-commuter-rail-service-in-the-greater-toronto-area>

- Government of Ontario. (2015a, April 22). Union Pearson Express to Launch June 6 [Press Release]. Retrieved October 13, 2015, from <http://news.ontario.ca/opo/en/2015/04/union-pearson-express-to-launch-june-6.html>
- Government of Ontario. (2015b, April 27). Ontario Launches 2015 Games Ad and New Celebration Zone [Press Release]. Retrieved November 11, 2015, from <http://news.ontario.ca/panam2015/en/2015/04/ontario-launches-2-15-games-ad-and-new-celebration-zone.html>
- Grant, K. (2010, November 16). Metrolinx defends decision to buy diesel trains for rail link to Pearson. *The Globe and Mail*. Retrieved from <http://www.theglobeandmail.com/news/toronto/metrolinx-defends-decision-to-buy-diesel-trains-for-rail-link-to-pearson/article562463/>
- Greater Toronto Airports Authority. (2015). *Toronto Pearson (Enplaned + Deplaned) Passenger Summary*. Retrieved from [http://www.torontopearson.com/uploadedFiles/GTAA/Content/About_GTAA/Statistics/12-DecPax\(1\).pdf](http://www.torontopearson.com/uploadedFiles/GTAA/Content/About_GTAA/Statistics/12-DecPax(1).pdf)
- Haider, M. (2015, April 23). The Union-Pearson Express Train Gets a Big Thumbs Down. *The Huffington Post*. Retrieved from http://www.huffingtonpost.ca/murtaza-haider/union-pearson-train_b_7122734.html
- Haley, K. (2015). *UP Express Quarterly Board Report* (pp. 1–5). Union Pearson Express. Retrieved from http://www.metrolinx.com/en/docs/pdf/board_agenda/20150922/20150922_BoardMtg_UP_Express_Report_EN.pdf
- Hall, C. M. (1992). *Hallmark Tourist Events: Impacts, Management and Planning*. London: Belhaven.
- Harvey, D. (1978). The urban process under capitalism: a framework for analysis. *International Journal of Urban and Regional Research*, 2(1-2), 101–131.
- Harvey, D. (1989). *The Urban Experience*. Oxford: Blackwell.
- Hiller, H. H. (1990). The urban transformation of a landmark event: the 1998 Calgary Winter Olympics. *Urban Affairs Quarterly*, 26(1), 118–137.
- Hoekstra, G. (2014, March 23). Homes near rail lines face exposure to harmful emissions: study. *Vancouver Sun*. Retrieved from

- <http://www.vancouversun.com/health/Homes+near+rail+lines+face+exposure+harmful+emissions+study/9652314/story.html>
- Hunter, P. (2015, June 10). Canadian Olympics chief says Toronto ready for bid. *The Toronto Star*. Retrieved from <http://www.thestar.com/news/gta/panamgames/2015/06/10/canadian-olympics-chief-says-toronto-ready-for-bid.html>
- Kalinowski, T. (2012a, November 19). Residents take fight for electric trains to court. *The Toronto Star*. Retrieved from http://www.thestar.com/news/city_hall/2012/11/19/residents_take_fight_for_electric_trains_to_court.html
- Kalinowski, T. (2012b, November 21). Residents lose court bid to stop diesel trains on airport run. *The Toronto Star*. Retrieved from http://www.thestar.com/news/city_hall/2012/11/21/residents_lose_court_bid_to_stop_diesel_trains_on_airport_run.html
- Kalinowski, T. (2014, December 11). TTC rebrands its airport bus — the cheaper if not faster way to Pearson. *The Toronto Star*. Retrieved from http://www.thestar.com/news/gta/transportation/2014/12/11/ttc_rebrands_its_airport_bus_the_cheaper_if_not_faster_way_to_pearson.html
- Kalinowski, T. (2015a, March 9). UPX offers “clean” train ride with a view. *The Toronto Star*. Retrieved from <http://www.thestar.com/news/gta/transportation/2015/03/09/upx-offers-clean-train-ride-with-a-view.html>
- Kalinowski, T. (2015b, June 5). Metrolinx CEO chats about Union Pearson Express. *The Toronto Star*. Retrieved from <http://www.thestar.com/news/gta/transportation/2015/06/05/metrolinx-ceo-chats-about-union-pearson-express.html>
- Kassens-Noor, E. (2013). Transport Legacy of the Olympic Games, 1992-2012. *Journal of Urban Affairs*, 35(4), 393–416.
- Kassens-Noor, E., Wilson, M., Müller, S., Maharaj, B., and Huntoon, L. (2015). Towards a mega-event legacy framework. *Leisure Studies*, 1–7.
- Kidd, B. (1992). The culture wars of the Montreal Olympics. *International Review for the Sociology of Sport*, 27(2), 151–162.

- Law, C. (1994). Manchester's bid for the Millennium Olympic Games. *Geography*, 79(3), 222–231.
- Lewis, J. (2014, January 27). Olympic Games and other mega-events: what they mean for cities. *University of Toronto News*. Retrieved from <http://news.utoronto.ca/olympic-games-and-other-mega-events-what-they-mean-cities>
- Li, S., and McCabe, S. (2013). Measuring the Socio-Economic Legacies of Mega-events: Concepts, Propositions and Indicators. *International Journal of Tourism Research*, 15(4), 388–402.
- McKinsey Global Institute. (2013). *Infrastructure productivity: How to save \$1 trillion a year*. McKinsey and Company.
- Metrolinx. (2008). *The Big Move: Transforming Transportation in the Greater Toronto and Hamilton Area*. Government of Ontario. Retrieved from http://www.metrolinx.com/thebigmove/Docs/big_move/TheBigMove_020109.pdf
- Metrolinx. (2009). *Georgetown South Service Expansion and Union-Pearson Rail Link: Environmental Project Report*. Retrieved from http://www.gotransit.com/gts/en/docs/finalEPR/Final_EPR.pdf
- Metrolinx. (2012, November 29). Metrolinx Unveils Next Wave of Big Move Projects [Press Release]. *Canadian Newswire*. Retrieved from <http://www.newswire.ca/news-releases/metrolinx-unveils-next-wave-of-big-move-projects-511283121.html>
- Metrolinx. (2014a). *UP Express Fare Strategy*. Toronto: Union Pearson Express. Retrieved from <http://myaccess.library.utoronto.ca/login?url=http://books.scholarsportal.info/viewdoc.html?id=/ebooks/ebooks3/ogdc/2015-04-28/1/328974>
- Metrolinx. (2014b, December 10). UP Express: Fare Structure at a Glance. Retrieved from http://www.metrolinx.com/en/aboutus/publications/Union_Pearson_Express_Fare_Fact_Sheet_EN.pdf
- Moore, O. (2015, September 25). Metrolinx's reputation on the line with poor figures for Pearson express train. *The Globe and Mail*. Retrieved from <http://www.theglobeandmail.com/news/toronto/metrolinx-reputation-on-the-line-with-poor-figures-for-pearson-express-train/article26552266/>
- Morrow, A. (2013, November 20). Total cost of 2015 Pan Am Games pegged at more than \$2.5-billion. *The Globe and Mail*. Retrieved from

- <http://www.theglobeandmail.com/news/politics/total-cost-of-the-2015-pan-am-games-pegged-at-over-25-billion/article15526211/>
- O'Toole, M. (2011, December 19). Construction on Union-Pearson air-rail link to start this spring. *National Post*. Retrieved from <http://news.nationalpost.com/posted-toronto/construction-to-start-this-spring-on-union-pearson-air-rail-link>
- Paddison, R. (1993). City marketing, image reconstruction and urban regeneration. *Urban Studies*, 30(2), 339–350.
- Pearson (International Airport) rail link proposed. (2000). *Canadian News Facts*, 34(11), 6068.
- Peat, D. (2015, July 11). Union Pearson Express meeting ridership goals: Metrolinx. *Toronto Sun*. Retrieved from [http://www.torontosun.com/2015/07/11/union-pearson-express-meeting-ridership-goals-metrolinx?utm_source=facebook&utm_medium=recommend-button&utm_campaign=Union Pearson Express meeting ridership goals: Metrolinx](http://www.torontosun.com/2015/07/11/union-pearson-express-meeting-ridership-goals-metrolinx?utm_source=facebook&utm_medium=recommend-button&utm_campaign=Union%20Pearson%20Express%20meeting%20ridership%20goals%20Metrolinx)
- Peck, J., and Tickell, A. (1995). Social regulation after Fordism: regulation theory, neo-liberalism and the global-local nexus. *Economy and Society*, 24(3), 357–386.
- Peterson, D. (2014, July 10). Why Toronto should get excited about the Pan Am Games. *The Globe and Mail*. Retrieved from <http://www.theglobeandmail.com/globe-debate/why-toronto-should-get-excited-about-the-pan-am-games/article19543736/>
- Piercy, J. (2009, November 6). Toronto to host 2015 Pan Am Games. *CBC*. Retrieved from <http://www.cbc.ca/sports/toronto-to-host-2015-pan-am-games-1.778874>
- Pom, C. (2015, May 15). Residents frustrated over Union Pearson Express construction noise, damage. *Global News*. Retrieved from <http://globalnews.ca/news/2001758/residents-frustrated-over-union-pearson-express-construction-noise-damage/>
- Railway Gazette. (2011, March 1). Metrolinx orders DMUs to work airport rail link. Retrieved October 20, 2015, from <http://www.railwaygazette.com/news/passenger/single-view/view/metrolinx-orders-dmus-to-work-airport-rail-link.html>
- Ritchie, J., and Smith, B. (1991). The impact of a mega-event on a host region awareness: a longitudinal study. *Journal of Travel Research*, 30(1), 3–10.
- Roche, M. (1994). Mega-Events and Urban Policy. *Annals of Tourism Research*, 21, 1–19.
- Roche, M. (2000). *Mega-Events and Modernity: Olympics and Exports in the Growth of Global Culture*. London: Routledge.

- Sachgau, O. (2015, July 10). Pan Am Games start today: Here's what you should know. *The Globe and Mail*. Retrieved from <http://www.theglobeandmail.com/news/toronto/pan-am-games-start-today-heres-what-you-should-know/article25412594/>
- Schein, J., and Cash, A. (2013, September 10). UP Express: Diesel trains and missed opportunities. *The Toronto Star*. Retrieved from http://www.thestar.com/opinion/commentary/2013/09/10/up_express_diesel_trains_and_missed_opportunities.html
- Scherer, J. (2011). Olympic villages and large-scale urban development: crises of capitalism, deficits of democracy? *Sociology*, 45(5), 782–797.
- Siemiatycki, M. (2010). Delivering Transportation Infrastructure Through Public-Private Partnerships. *American Planning Association. Journal of the American Planning Association*, 76(1), 43–58.
- Silvestre, G. (2009). The Social Impacts of Mega-Events: Towards a Framework. *Esporte E Sociedade*, 4(10), 1–26.
- Sonoma Marin Area Rail Transit. (2010). *SMART Technical Specification for Diesel Multiple Units (DMUs)*. Retrieved from <http://www2.sonomamarintrain.org/userfiles/file/Vehicles%20Draft%20DMU%20Technical%20Specification%201-20-10.pdf>
- Spurr, B. (2015, July 16). UPX bells a whole new nuisance along tracks. *The Toronto Star*. Retrieved from <http://www.thestar.com/news/gta/2015/07/16/upx-bells-a-whole-new-nuisance-along-tracks.html>
- Transport Canada. (2001). *Request for Expressions of Interest: Air Rail Link from Lester B. Pearson International Airport to Union Station*. Ottawa: Government of Canada. Retrieved from <http://www.westoncommunitycoalition.ca/Air%20Rail%20Link%20RFEOI%20April%202001.pdf>
- Transport Canada. (2003, November 13). Transport Minister Announces Winning Proposal for Toronto Air-Rail Link [Press Release]. Toronto. Retrieved from <http://www.westoncommunitycoalition.ca/Nov%202003%20Selection%20of%20SNC%20and%20Backgrounder.pdf>

- Union-Pearson Express. (2015, September 2). Train Facts. Retrieved from <https://www.upexpress.com/AboutUP/UpFactSheet>
- UP Express. (2015). News and Media. Retrieved from <https://www.upexpress.com/AboutUP/Photos>
- Van Der Westhuizen, J. (2007). Glitz, Glamour and the Gautrain: Mega-Projects as Political Symbols. *Politikon*, 34(3), 333–351.
- Vining, A., Boardman, A., and Poschmann, F. (2005). Public–private partnerships in the US and Canada: “There are no free lunches.” *Journal of Comparative Policy Analysis: Research and Practice*, 7(3), 199–220.
- Warnica, R. (2015, July 25). If Pan Am Games deemed a success, Toronto Olympic bid looks increasingly likely. *National Post*. Retrieved from <http://news.nationalpost.com/toronto/if-pan-am-games-deemed-a-success-toronto-olympic-bid-looks-increasingly-likely>
- Wyatt, C. (2005, November 9). Weston coalition calls for a new subway line. Retrieved from <http://www.businessedge.ca/archives/article.cfm/weston-coalition-calls-for-new-subway-line-11159>