

Toronto Financial District BIA

**Opinion on the Economic
Impact of an Improved PATH
Wayfinding System**

Toronto, Ontario

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N. BARRY LYON CONSULTANTS LIMITED

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Disclaimer:

The conclusions contained within this report have been prepared based on both primary and secondary data sources. NBLC makes every effort to ensure the data is correct but cannot guarantee its accuracy. It is also important to note that it is not possible to fully document all factors or account for all changes that may occur in the future and influence the viability of any development. NBLC therefore assumes no responsibility for losses sustained as a result of implementing any recommendation provided in this report.

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Executive Summary

The Toronto Financial District Business Improvement Area (“BIA”) is currently engaged in the development of a new wayfinding system for Toronto’s PATH. The current system is confusing for many users and is believed to act as a disincentive for anyone who is not well-versed in navigating the PATH system, which could lead to lost sales and tax revenues along with other broader municipal benefits.

As part of the new wayfinding system process the BIA has asked NBLC to revisit the work undertaken as part of the 2011 PATH Economic Impact Study and to provide an opinion on the economic impact of the proposed new wayfinding system.

The findings of our updated Economic Impact Study can be summarized as follows:

- Approximately 700,000 square feet (“sf”) of new retail space has been added to the PATH system between 2010 and 2015, according to data provided by Ryerson University’s Centre for the Study of Commercial Activity, bringing the total retail space to 3.7 million sf. The number of stores/businesses has also increased from an estimated 1,040 in 2010 to 1,133 in 2015. These totals do not include the above-ground levels of the Eaton Centre and the Bay.
- With the increase in square footage of retail space and the number of businesses in the PATH, this accounts for an additional \$300 million in sales revenues from 2010, up to an estimated total of \$1.7 billion.
- There is an estimated 4,600 full-time equivalent (FTE) jobs located in the PATH, equal to 4.4 FTE jobs per store/business. This represents an increase of nearly 400 FTE jobs since 2010. Based on average wages for retail salespersons and managers, we estimate that employees of the businesses in the PATH had a combined income of nearly \$117 million in 2015, up from approximately \$103 million at the time of our previous report in 2010.
- NBLC conservatively estimates that the PATH produced approximately \$271 million in federal, provincial, and municipal tax revenue in 2015. This total includes more than \$207 million in Harmonized Sales Tax (HST), \$35.7 million in income tax, and an estimated \$28.4 million in municipal property tax.

Through a combination of research, professional experience, and the findings of our Economic Impact Study, NBLC was able to provide an opinion on the impact of a new wayfinding system. The key points are as follows:

- The economic benefits of the PATH system are already significant. However, we believe it is likely underperforming largely due to the existing wayfinding system. This is underpinned by a lack of confidence of new users and tourists with respect to using the system leading to

reduced movements and spending, a lack of shopper comfort and familiarity with retail services in the PATH, and a lack of clarity of routes and walking distances.

- The Downtown has experienced significant growth in both employment and new residents over the past 10 years and is positioned for continued strong growth. As such, the demand for the amenities offered by the PATH system and opportunities to achieve broad municipal benefits will increase. However, in our view, these benefits will not be fully realized with the existing wayfinding system.
- Our research indicates that people are likely to visit more often and for longer periods if they are comfortable in their surroundings and able to find their way around. The positive impacts incurred from quantifiable benefits such as time savings and decreased congestion outweigh the costs in the wayfinding cases we researched, without taking into account the impact of increased pedestrian traffic from Toronto residents and tourists on business activity and property values.
- It is logical to assume that if the wayfinding system in the PATH were improved to increase its ease of use, the number of visitors to the PATH would increase. As the number of visitors increase, it is reasonable to assume that sales revenues will increase as planned and impulse purchases rise.
- From our research over the past five years, our experience in the development industry, and the experience of others, it is clear that the current wayfinding system is inadequate to meet the needs of visitors, workers and residents of Toronto.
- In the case of the PATH, this translates to loss of retail and tourism spending. This study confirms the significance of the economic impacts of a new wayfinding system measured in terms of factors such as job creation and tax revenue. As pointed out in the report, even a small increase in spending as a result of increased use has a significant financial impact to the City.
- What is more difficult to measure, and undoubtedly significant, are the non-quantifiable impacts associated with benefits such as improved visitor experiences, increased marketability of office space, and the overall role the PATH plays in contributing to the vibrancy of Downtown Toronto.

1.0 Introduction

The City of Toronto's PATH pedestrian system is the largest underground shopping complex in the world. In 2010, Urban Strategies along with N. Barry Lyon Consultants Limited ("NBLC"), undertook a Master Plan for the PATH system which identified that, at the time, it generated over \$254 million in income, sales, and property tax revenue to the City and the Province of Ontario. The study included extensive research and surveys of PATH tenants, tourists, and day-to-day users which consistently reported confusion and difficulty interpreting signage in navigating the system. The study concluded that this lack of clarity was deterring its use and causing it to underperform economically. A core recommendation of the study was to develop a new wayfinding system reflective of its expanded scale and use.

The Toronto Financial District Business Improvement Area ("BIA") is now engaged in the development of the new wayfinding system. As part of this process it has asked NBLC to revisit the work undertaken as part of the 2011 Economic Impact Study in order to:

- Update its economic impact assessment; and,
- Provide an opinion with respect to the economic impact of a new wayfinding system.

According to the BIA, key issues and challenges with the existing wayfinding system are:

- *Accessibility:* There is insufficient information on the locations of accessible entrances/exits;
- *Consistency and placement of signage:* A lack of co-operation exists between different building owners, transit, etc. and there are no common guidelines;
- *Signage information:* Key destinations are not listed on signs and there is no indication of time or distance to destinations;
- *Orientation:* The size and complexity of the network is an issue. It is difficult for users to know where they are in the PATH in relation to street level, and where exits lead. Signs point to the next building, but do not direct users to major destinations, making it more difficult for users to plan their trips. Users must know the nearby buildings to know which direction to choose;
- *Updating of information:* Store details change frequently and new buildings are not always integrated in the wayfinding system, leading to incomplete maps;
- *Emergency/safety:* It is difficult for users to locate emergency exits for evacuation. After hours, there is no security and hours of operation are not always clear/available; and,
- *Public realm:* There are a lack of places for users to sit and rest.

This report begins with a summary of our 2011 economic impact report that fed into the 2012 Master Plan work. Next, we provide a macro-level overview of how Downtown Toronto and the PATH system have changed since that 2011 report and an economic analysis with updated data. Following the discussion of economic impacts, we will provide an opinion on the impact that the proposed new wayfinding system could have, using a mix of secondary research and our own professional experience.

2.0 Summary of the 2011 Economic Impact Report

In 2010, Urban Strategies Inc. with NBLC were retained to develop a master plan for the PATH system. The Master Plan was completed in January 2012. Through 2011, NBLC developed an economic assessment of the PATH system that formed a key building block in the development of the Master Plan and its recommendations.

There were two primary conclusions stemming from our review of the economic costs and benefits associated with the PATH network:

- For the City of Toronto, the economic and non-quantifiable economic benefits of the PATH far outweigh the limited costs at both the local and City-Region levels. Furthermore, it was expected that the benefits would continue to grow as the PATH itself expands while the costs to the City will remain low. Benefits to the City also translate to a larger scale regional context, as a leading global city that can attract skilled workers and offer a high standard of living in part through provision of quality amenities and infrastructure.
- For individual properties, both the economic benefits and costs of a PATH connection can be considerable. For most private property owners, economic benefits are significant.

As such, it was further concluded that it is in the City's best interest to grow, improve, and evolve the PATH system where possible and appropriate; but in doing so it must be conscious of the differences in motivation that exist between various property/building types and how each should be treated when managing PATH growth.

Other key findings from our 2011 economic analysis included the following:

- As of 2010, the PATH (including the bottom two levels of Eaton Centre and The Bay) accommodated more than 3 million square feet (sf) of retail space, 1,040 stores and about 4,200 FTE jobs. Even if no new retail space were added to the PATH between 2011 and 2031, it is estimated that each year the existing PATH retail space would generate an average of about \$1.55 billion in sales, pay an average of \$126 million in wages, and produce an average of \$254 million in federal, provincial and municipal taxes, of which almost \$19 million would be directly received by the City of Toronto.
- An office building's PATH connection is a key competitive advantage, and therefore adds additional value to the building, which in turn translates into greater property tax revenue for the City.
- There are a number of other economic benefits for the City of Toronto associated with the PATH, the most important being the impact on Toronto's overall competitiveness in attracting

and retaining residents, business, and employees, as well as its impacts on the City's tourism industry.

- There are a host of important non-quantifiable economic benefits to the City, most notably its effect on: transit ridership and access; movement throughout the City's Downtown; overall urban connectivity; resident, employee, and visitor quality of life; and, urban intensification and concentration.
- The economic costs to the City associated with the PATH are minor, due primarily to the City's limited physical ownership of the PATH and the arrangements it establishes with connecting property owners. The most significant costs to the City are one-time costs associated with major repairs/maintenance, construction costs related to connecting public buildings or City initiated extensions (i.e. York Street extension), and the possible updating of the PATH's wayfinding system.
- From an individual property owner's perspective, the economic benefits associated with the PATH can be split between direct, indirect and other impacts. Direct impacts are those associated with the leasing of commercial space in the PATH, primarily within office, hotel and large commercial buildings.
- For the most part, PATH retail space performed well compared to most other retail formats in the City. Average annual retail sales in the PATH are estimated at \$500 psf, with net lease rates ranging from \$50 to \$120 psf. Centrally located areas along major north-south PATH routes and below larger buildings perform the best.
- A unanimous sentiment of major property owners interviewed throughout this work was that the indirect economic impacts associated with the PATH are of equal if not greater significance than the direct economic impacts. Indirect economic benefits are the associated benefits of being connected to the PATH, such as higher obtainable lease/rental rates, lower vacancies, increased revenue, and faster rental space absorptions. Office buildings and to a lesser degree hotels and certain cultural buildings, obtain sizeable indirect economic benefits from connection to the PATH.
- Costs related to the PATH from an individual property owner's perspective can be separated into initial construction costs (connection only), annual expenses, and one-time capital expenses. Construction costs are the most significant.
- The economic benefits associated with PATH connection far outweighed all associated costs for office buildings, with the balance also favourable for hotels, certain cultural destinations, and possibly institutions. This was not the case for residential buildings, where attainable economic benefits are more limited.

The 2010 report also suggested the following be considered in managing the future growth of the PATH system:

- The PATH Master Plan should provide a framework for the future physical expansion of the PATH, potentially highlighting priority areas, directions and/or specific connections.
- The City should explore a proactive role in promoting new PATH connections when a development is located on either an identified priority link or site. The connection of such developments to the PATH should be clearly defined and/or mandated so as to ensure the continued extension of the PATH network and to avoid blocking further PATH opportunities. Understanding that economic motivations to connect to the PATH system differ by building type, it is suggested that in some circumstances the City could provide financial incentives in order to provide some relief of the associated PATH costs (particularly construction costs) and achieve a more favourable balance between the benefits and costs of connection when it is in the broader City interest to do so.

3.0 Changes to Downtown Toronto and the PATH

Since our 2011 research, there have been some significant changes in Downtown Toronto, as well as to the PATH system itself, adding new connections and retail space. Population, employment, office space, and tourism have all grown since 2011. In total, the Downtown is now a destination for more than 830,000 people every day, whether they be residents, commuting workers, commuting students, or tourists on day trips or overnight visits¹. This is a very large, and growing, pool of people that the PATH system has the potential to attract moving forward.

3.1 Population Growth

The pace of growth in Downtown Toronto is accelerating, far exceeding the rest of the City of Toronto and the GTA. As of May 2011, the population of Downtown Toronto was approximately 200,000. Since then, more than 26,000 residential units have been added in Downtown Toronto (as of June 2015). The City of Toronto, through its TO Core study, estimates that these 26,000 units represent an additional population of 40,000 to 45,000 persons. This equates to 20% growth in a four year period and more than 10,000 new residents in the Downtown per year between 2011 and 2015.

This high growth is anticipated to continue as close to 77,000 residential units were proposed, approved, or under construction in Downtown Toronto as of June 2015, which could add upwards of 130,000 new residents in the coming years, pushing the population in Downtown Toronto above 350,000.

3.2 Office and Employment Growth

The amount of non-residential space has also increased since 2011, with more than 10 million square feet (sf) of space completed in the Downtown in the same time period, and more than 40,000 new jobs added². In 2015, there was approximately 25 million sf of new office space planned or under construction south of Yorkville Avenue between Dufferin Street and Carlaw Avenue, according to data from Ashlar Urban Realty. Though Ashlar's data extends beyond the Downtown, the majority of office space is expected to be located in the Downtown, some of which will be connected directly to the PATH system.

3.3 Tourism Growth

Tourism has also been growing in Toronto, with 40 million visitors in 2015, a record 14 million of which were overnight visitors³. This is compared to approximately 10 million overnight visitors,

¹ TOCore Phase 1 Summary Presentation

² TOCore Phase 1 Summary Presentation

³ City of Toronto, Tourism, Key Facts

and approximately 25 million total visitors in 2010⁴. The 2015 Pan Am Games played a role in the record setting number of overnight visitors, but so too has the low Canadian dollar, attracting an increased number of tourists from south of the border. The 40 million visitors in 2015 spent \$7.2 billion during their trips in 2015.

Though data was not readily available for 2015, it is notable that according to Ontario's Ministry of Tourism, visitors in 2010 to Toronto spent \$5.4 billion, generating \$1.8 billion in total taxes, including more than \$14 million in municipal taxes. It is anticipated that with the increase in visits and spending since then, tax revenue will have also grown.

3.4 PATH Expansion

Since our previous report, the PATH has expanded fairly significantly. Some of the new connections to the PATH system since our previous report include:

- Ritz-Carlton Hotel;
- South Core Financial Centre – Delta Toronto, Bremner Tower, PwC Tower;
- RBC WaterPark Place / WaterPark Place;
- Ice Condominiums;
- Aura Condominiums;
- MARS Discovery Phase II; and,
- Union-Pearson Express.

Other buildings such as Bay-Adelaide Centre East, 100 Adelaide, and One York are currently under construction and anticipated to be connected to the PATH system when complete.

According to Ryerson University's Centre for the Study of Commercial Activity (CSCA), the PATH system had close to 4.7 million sf of retail space in 2015, up from approximately 4 million sf at the time of our previous report, according to City of Toronto estimates. It should be noted that these totals include the above ground retail at the Eaton Centre and Hudson's Bay Company, which is excluded in our economic analysis. Not all new connections include a significant amount of retail, however, they do provide additional connections to existing retail uses and increase the number of potential visitors to the PATH system.

⁴ Tourism Toronto Annual Report, 2010

4.0 2016 Updated Economic Impact Analysis

The PATH provides a number of positive economic benefits for the City of Toronto, as well as the broader GTA. The benefits can be separated into direct economic impacts, indirect/induced impacts and other economic benefits.

4.1 Direct Economic Benefits

The direct economic impacts associated with the PATH relate specifically to the economic activities that occur within the confines of the PATH on a daily basis. Based on information collected by the Centre for the Study of Commercial Activity at Ryerson University, including only the bottom two levels of both the Eaton Centre and The Bay, there were an estimated 1,133 stores/businesses in the PATH in 2015, up from approximately 1,040 in 2010. These 1,133 businesses account for approximately 3.7 million sf of leasable retail space⁵. This represents an increase of nearly 700,000 sf from our 2011 report, which indicated a total of just over 3 million sf in 2010.

As of 2015, the average vacancy rate in the PATH was 10%, though approximately half of all vacant units were located in underground retail space below Aura Condominiums at Yonge Street and Gerrard Street West. Though Aura is considered a part of the PATH, it is not connected to the primary PATH system in the Financial Core, and therefore we do not believe that the 10% vacancy rate is indicative of the majority of the PATH system. As such, we have assumed a vacancy rate of 7.5%, the same rate as in 2010.

Table 1 (including assumptions), on the following page, notes the direct economic impacts of the PATH system both in 2010, from our previous report, and in 2015. They are summarized as follows:

- There is estimated to be over 4,600 full time equivalent (FTE) jobs located in the PATH, equal to 4.4 FTE jobs per store/business⁶. This is an increase of nearly 400 FTE jobs since 2010.
- It is estimated that the existing PATH retail space generated approximately \$1.7 billion in sales in 2015 based on an average estimated revenue of \$500 psf. With the increase in square footage of retail space and the number of businesses in the PATH, this accounts for an additional \$300 million in sales revenues from 2010.

⁵ This includes only the bottom two levels of the Eaton Centre and The Bay (Queen Street). While considered by many to be part of the PATH system, the total building areas have been excluded from the economic analysis because the Eaton Centre and The Bay are entirely retail in nature, their size/dominance in terms of retail floor space and employment, and because a large portion of their operation is considered to exist and operate largely independent from the rest of the PATH system.

⁶ Based on 2010 City of Toronto estimates, including only the bottom two levels of the Eaton Centre and The Bay.

- Based on average wages for retail salespersons and managers as provided by the Government of Canada Job Bank, we estimate that employees of the businesses in the PATH had a combined income of nearly \$117 million in 2015. Accounting for changes in the average wages of these positions, and the increase in the number of businesses and jobs, this represents an increase of approximately \$14 million in wages since 2010.
- Furthermore, NBLC conservatively estimates that the PATH produced approximately \$271 million in federal, provincial, and municipal tax revenue in 2015. This total includes more than \$207 million in Harmonized Sales Tax (HST), \$35.7 million in income tax, and an estimated \$28.4 million in municipal property tax. Though this represents an additional \$43 million in total tax revenues from 2010, the amount of annual municipal property tax is estimated to have declined by approximately \$1.75 million since 2010 due to cuts to the City of Toronto's General Commercial property tax rates⁷.

Table 1

Existing Estimated Direct Economic Impacts - Toronto PATH, 2010 vs 2015		
	2010	2015
Gross Leasable Retail Floor Space¹	3,021,000 sq.ft.	3,700,000 sq.ft.
Number of Stores/Businesses²	1,040	1,133
Jobs³	4,230	4,610
Employment Income⁴	\$102,805,000	\$116,794,000
Sales Revenue⁵	\$1,397,213,000	\$1,711,250,000
Taxes - Total	\$228,166,000	\$271,385,000
<i>Income Tax (Personal & Corporate)⁶</i>	\$29,727,000	\$35,701,000
<i>Sales Tax (HST)⁷</i>	\$168,273,000	\$207,279,000
<i>Property Tax (inc. Education Tax)⁸</i>	\$30,166,000	\$28,405,000

Note: 2010 vacancy rate of 7.5% as provided by Ryerson University's Centre for the Study of Commercial Activity (CSCA); 2015 vacancy rate was 10.6% as per CSCA, however, 7.5% was used as half of all vacancies were in retail space below Aura Condominiums, a building that is not connected to core PATH system, and 10% is not indicative of vacancy in the rest of the PATH system; includes bottom two levels of Eaton Centre & The Bay.

1 - 2011 number based on City estimated 4 million sq.ft. in PATH, minus upper levels of Eaton Centre and The Bay; 2015 number based on information provided by CSCA, minus upper levels of Eaton Centre and The Bay

2 - 2011 based on 1,200 stores in PATH as provided by City and confirmed by CSCA; 2015 based on 1,293 stores in PATH as provided by CSCA; both numbers minus approximately 160 stores located on upper levels of Eaton Centre

3 - 5,000 + jobs as estimated by City of Toronto Economic Development in 2010, subtracting estimated number of people employed on upper levels of Eaton Centre. Average of 4.4 Full Time Equivalent Employees (FTE) per store, with one management position for each store.

4 - Income based on average wage rates of retail sales persons and managers as provided by the Canadian Labour Market Information, Toronto Region, 2009 (2010 rate) and Government of Canada Job Bank Median Wage Rate, Toronto, Ontario (2015 Rate)

5 - Total retail square feet multiplied by average revenue of \$500 psf. Based on conversations with Property Owners by NBLC in 2010 and Financial District BIA in 2016. Revenues vary greatly based on location of retail space, with those located in the major bank towers earning closer to \$750 psf.

6 - Personal income tax estimated by multiplying total manager and non-manager incomes by average 2010 and 2015 Ontario income tax rate (www.tax-services.ca). Corporate tax rate estimated by assuming 10% (of gross revenue) profit margin (StatsCan industry data) and multiplying by average corporate income tax rate of 12% (2010) or 11.5% (2015)

7 - Gross Revenue minus wages/salaries multiplied by HST - 13%

8 - Estimated by multiplying gross retail floor space by estimated office/retail hard construction cost of \$300 per square foot, multiplied by 2010 or 2015 General Commercial City property tax mill rates

Source: N. Barry Lyon Consultants Ltd

⁷ City of Toronto Commercial General Tax Rates – 2010 (3.60%) and 2015 (2.77%)

- The municipal property tax consists of the City, Education, and Transit property tax components and is based on the estimated hard construction cost of the retail space as if it was built separately from the connecting above ground buildings. In 2015, the City portion of the estimated municipal property tax collected is almost 56% of the total, or about \$15.8 million.
- The amount of retail contained in the PATH would likely not otherwise exist at or above street level in Downtown Toronto, due to both the broader market catchment area the PATH provides access to and the more limited amount of available commercial space at grade, particularly in the case of office buildings. Therefore, the amount of annual commercial property tax paid to the City, stemming from the Downtown Core, is higher as a result of the PATH system.

4.2 Indirect / Induced Economic Benefits

The economic impacts associated with the retail operations contained within the PATH are likely to be much broader than just those directly associated with its day-to-day operations. Indirect or induced economic impacts extend past the point of sale to product warehouses, distributors, and logistics providers, among others.

Based on our previous review of relevant economic impact studies, a multiplier of between 1.5 and 2.0 is typically used to estimate indirect/induced economic impacts in similar circumstances⁸. If applied to the direct economic impact forecasts summarized in **Table 1**, it is estimated that the day-to-day operations of the PATH may result in additional indirect and induced economic impacts of

- 6,900 to 9,200 full-time equivalent (FTE) jobs;
- \$2.57 billion to \$3.42 billion in sales revenue; and,
- \$407 million to \$543 million in taxes.

However, it should be noted that unlike the direct economic benefits, a significant portion of these indirect / induced benefits would not be captured by the City of Toronto, but rather would be felt at a much broader geographic scale. For example, products sold at a specific retail outlet in the PATH may not be produced in the City of Toronto, but rather somewhere else in Ontario, Canada, or internationally.

⁸ Some studies using similar multipliers include: *Valuing Museums: Impact and Innovation Among National Museums*, National Museum Directors Conference, March 2004; *Using Multipliers to Measure Economic Impacts*, California Economic Strategy Panel 2009; *European Amusement and Theme Park Industry: An Assessment of Economic Impact of Onsite Visitor Spending*, ERC/AECOM, September 2009; *Ottawa International Airport: Economic Impact*, International Airport Authority, 2008; *Edmonton International Airport Economic Impact Study*, InterVISTAS Consulting, June 2009.

4.3 Other Economic Benefits

There are a variety of other positive economic benefits resulting from the PATH from our 2011 report that should be considered. They remain relevant in 2016 and include:

- The PATH network is one of the economic drivers of Downtown Toronto, assisting the Downtown and the City in successfully competing with other municipalities in the GTA, as well as nationally and internationally, in the attraction and retention of businesses and the most talented employees.
- The construction of new PATH connections has positive economic implications, including jobs, wages, taxes, and economic activity⁹.
- The PATH positively contributes to Toronto's tourism economy. It conveniently links transportation gateways, hotels and popular destinations, such as the Air Canada Centre, Rogers Centre, CN Tower, Eaton Centre, Hockey Hall of Fame and Metro Toronto Convention Centre. As such, the PATH is a critical piece of the City's tourism infrastructure, with the potential to positively contribute to the visitor experience.
- It is estimated that a large proportion of rush-hour pedestrian traffic volume in the PATH system originates or terminates at one of the connecting transit stops. It is likely that a portion of these PATH users would not otherwise take the TTC or GO Transit were it not for the ability to walk quickly and comfortably to work without stepping outside, particularly in adverse weather conditions. As such, the PATH supports transit ridership and revenues.
- As part of the negotiation with the City to construct and finance the PATH connections located under public rights-of-way, property owners agree to pay an annual licensing fee, paid to the City of Toronto's Transportation Services Right-of-Way Management section. The licensing fee effectively grants the private property owners' access to the City owned connections.

This fee is different for each connection, depending on such things as when the agreement was signed, land value and the length of the connection. The average fee amount per connection, as estimated by the City in 2011, is roughly \$3,500 to \$5,000. Based on the number of publicly owned PATH connections, it is estimated that the City collects over \$100,000 annually from these fees.

4.4 Non-Quantifiable Economic Benefits

In addition to the various economic benefits of the PATH already discussed, the PATH also provides for a number of non-quantifiable economic benefits to the City. While no monetary value

⁹ NBLC estimated in 2011 that for every \$1 million spent on PATH construction over a one year period as much as; 5 FTE construction jobs; over \$300,000 in wages; \$700,000 in capital expenses; and, \$155,000 in federal and provincial taxes may be produced.

can be easily attributed to these benefits, they should be considered of equal, if not greater, importance and magnitude than the PATH's economic benefits. Some examples of non-quantifiable economic benefits provided by the PATH include:

- PATH serves as a critical component to the City's overall transportation network, especially as a feeder to Union Station and the other connected TTC subway stations. PATH adds to the connectivity and functionality of the Downtown, providing agglomeration benefits to a variety of users.
- The PATH provides for quick, comfortable, safe, and convenient movement throughout the City's Downtown. Travel times between points are often lessened due to the routing of the PATH and/or the lack of traffic lights. Pedestrian safety is enhanced due to the lack of vehicular traffic, and pedestrian comfort is improved due to the lack of congestion and the climate controlled conditions of the PATH.
- The PATH enhances pedestrian and vehicular movement at street-level, by reducing congestion on City sidewalks and streets.
- It adds to the quality of life for those that work, live or visit the Downtown, with convenient access and choice to a range of services and amenities.
- It adds to the overall urban connectivity of the Downtown public realm, City, and region.
- It encourages greater pedestrian movement in the Downtown, serving to animate the Downtown.
- It provides the opportunity for social interaction and gathering. These opportunities for face-to-face encounters might lead to further economic activity and, at the very least, build social capital.
- It encourages urban concentration, intensification, and density, providing for the efficient use of existing infrastructure, particularly public transit.
- It is, in itself, a form of retail intensification. That is, a significant portion of the commercial uses located in the PATH, as already mentioned, would likely not otherwise exist in the Downtown at or above street-level.
- Finally, due to the PATH's impacts on encouraging/increasing public transit usage and walking, the presence of the PATH may serve to reduce the amount of cars on the road, and as a result, the level of air and noise pollution in the Downtown.

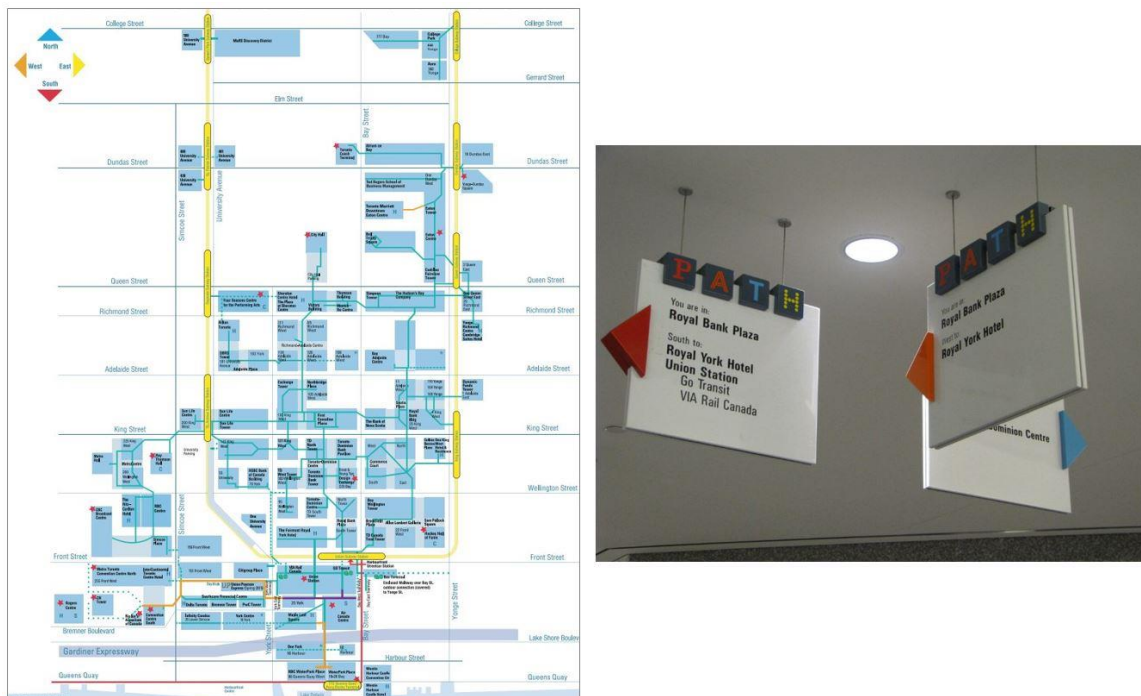
5.0 The Impact of Improved Wayfinding

A good wayfinding system allows people to orient themselves in a specific space and to move easily from place to place. Wayfinding's benefits are wide ranging for visitors, residents, and businesses, and include connecting places, reducing the reliance on cars and public transport, stimulating economic growth, and building confidence in walking. Without an accessible and easy-to-understand wayfinding system, a place or city runs the risk of not maximizing its full potential.

5.1 Existing PATH Wayfinding System vs Proposed Improvements

The current maps include individual buildings as blue blocks on a white background, with very little detail about the street network above the PATH, and providing little information in terms of the surrounding context (see **Figure 1**). There is no distinction between routes that take you between key destinations and shorter routes that only lead to one building, and without a traditional grid pattern it is easy for users to get lost. The 2012 Master Plan study included extensive research and surveys of PATH tenants, tourists, and day-to-day users which consistently reported confusion and difficulty interpreting signage in navigating the system.

Figure 1: Existing PATH map (L) and examples of existing PATH signage (R)



Source: City of Toronto (L), Toronto Star December 26, 2014 (R)

Additionally, as can be seen in **Figure 1**, signage hanging from ceilings typically only provides information on what the neighbouring building is, rather than information on what destinations the route leads to (e.g. City Hall, Eaton Centre, Air Canada Centre, etc.). If the user does not know the

names and locations of all buildings on the route, it is possible that they will have issues reaching their destination.

By contrast, the proposed wayfinding system for the PATH aims to address the issues and challenges outlined in Section 1.0 of this report, as identified by the BIA. The new system will:

- Include more information about the street grid above ground, with accurate depictions of the footprints of buildings surrounding the PATH;
- New maps will include 3D drawings of key buildings or destinations (e.g. Union Station, City Hall, Rogers Centre, etc.) that the PATH leads to, as well as others that are nearby but are not connected directly to the PATH, to further aid in users orienting themselves while underground;
- Accessible entrances/exits will be more clearly labelled;
- PATH maps will differentiate connector routes (major routes that move users between key destinations or transit stations) and branch routes (shorter routes that are often indirect and only lead to one end-point) by colour;
- Signage will be consistent across the PATH system using high-quality materials; and,
- New signs will provide information on the destinations of each route rather than just the neighbouring building, as well as walk times to key destinations along the route.

The goal of the new wayfinding system is to increase the ease at which users are able to move around the PATH system and increase their confidence in using the underground system.

Figure 2: Snapshots of details provided in preliminary designs for new PATH maps



Source: Toronto Financial District BIA

5.2 Precedents

There is a significant amount of information available on the impact of new wayfinding systems, particularly as it relates to city-wide wayfinding systems

While the extent of the impacts of these city-wide wayfinding systems may differ from that of the PATH system, the lessons learned are still relevant and can be applied to the PATH. This section examines some of the precedents that demonstrate the positive impact of improved wayfinding.

5.2.1 *Legible London*

Legible London is one of the most common precedents used in reports studying the impact of wayfinding systems and is believed to have the most comprehensive assessment of a wayfinding project to date¹⁰. Legible London is a wayfinding project designed to provide better information throughout London, England for people who want to walk. A study conducted prior to the initial trial in 2007 found that the multitude of existing pedestrian signs were ineffective and often confusing, leading to an over-reliance on the Tube maps to help navigate above ground. This led to short, unnecessary trips on the Tube, increasing transit congestion and discouraging people from walking.

The initial Legible London trial was launched in November 2007, with three subsequent pilots installed in 2009 to expand the area of Central London served by the wayfinding strategy. The system has since been expanded to nearly every borough in London with more than 1,300 signs across the City. The signs installed within Central London are the most heavily used as there tend to be higher numbers of tourists and visitors from other parts of the City. Less than one quarter of passing pedestrians in Central London were found to be frequent visitors, compared to three quarters outside the Central London area.

In addition to providing details of the street network, transit stops, and drawings of key destinations, the maps include a visual of a five minute and 15-minute walking radii around the location of the sign. The maps are also oriented in the direction that the user would be facing when using the map in order to provide a better context of where each direction leads.

Several reports and studies have since been undertaken on the impacts of Legible London, with findings that have included:

- The key drivers of wayfinding sign usage were familiarity of pedestrians with the area and the complexity of the pedestrian routes in the area.
- The new wayfinding system increases the frequency of walking and in turn encourages business and social interaction.

¹⁰ City of Edmonton: Wayfinding Business Case, August 2014

- A walking-friendly city is a tourist-friendly city and the local economy benefits directly. Retailers appreciate having people walking past their shops as it increases passing trade and impulse buying.
- Increased walking eases pressure on public transport systems, reducing short trips and making the transit system more efficient and less overcrowded.
- The business case to roll out the system across London indicated a benefit-cost ratio of between 1.5:1 to 5.3:1 for the monetized benefits alone (e.g. time savings from mode shift, time savings to existing pedestrians, health benefits, and quality benefits including increased pedestrian confidence and quality of the walking experience). This does not include the potential increase in tourism or business activity¹¹.

Though not related to Legible London, it is worth noting the findings of another study that focused on the value of improved street design in London. The study, undertaken by the United Kingdom's Commission for Architecture and the Built Environment (CABE), found that improved street design has a positive impact on residential prices and retail rental rates, and that residents are willing to pay higher taxes and/or transit fares for better streets. Using a pedestrian environment review system (PERS), a tool that measures a variety of variables that influence the quality of the pedestrian environment, the research found that a single point increase in the system can add an average of 5.2% to residential prices and 4.9% to retail rents. It also found that businesses can reap financial rewards from being located along a well-designed street. Though this study did not focus on wayfinding specifically, it does provide further evidence of the benefits of creating comfortable, high-quality environments for pedestrians.

5.2.2 Toronto Wayfinding

In 2011, the City of Toronto retained Steer Davies Gleave (SDG) and DIALOG to undertake a Wayfinding System Strategy for Toronto. The business case put forth by SDG set out the costs and benefits of a city-wide wayfinding system, providing the City with important information prior to an initial pilot project and a potential city-wide roll-out. While the system proposed in this report is much more extensive than that for the PATH in that it covers the entire City of Toronto, some of the findings and lessons are nonetheless relevant when considering the PATH.

SDG's report estimated that the key benefits from the new wayfinding strategy would be:

- Increasing the number of visitors at major attractions, increasing spending in the Greater Toronto Area, boosting the local economy, and enhancing the overall image of Toronto as a destination for tourists;

¹¹ City of Edmonton: Wayfinding Business Case, August 2014

- Reducing walk times, increasing confidence to walk, promoting multi-modal transit, and reducing residents reliance on personal auto usage; and,
- Improving the urban realm, sense of community, pedestrian safety, and the environment.

While the impact of some of these benefits may not extend to a new wayfinding system in the PATH, or at least not at the same scale, it is important to note the economic benefits that were determined in the report. They can broadly be defined as the following:

- *Transportation Impacts* – reduced journey times through making smarter choices, costs savings associated with reduced auto-dependency and therefore less road congestion, reductions in short transit journeys freeing up capacity for longer distance transit users.
- *Tourism Impacts* – improved wayfinding could make pedestrians more confident to explore new areas and walk more often. The ease at which a visitor can get around the City may encourage them to return more often or for lengthened or overnight stays, visiting more attractions and spending additional money.
- *Business Impacts* – Residents and tourists are more likely to spend more time in the City if they are more confident in their surroundings, and would therefore be more likely to spend money on products and services, directly benefitting the local economy.

The costs of the new wayfinding system was estimated at approximately \$800,000 for the pilot project, and an additional \$7.2 million for the full roll-out. Over a 25-year evaluation period, the transportation benefits alone would potentially outweigh the costs, with a benefit-cost ratio estimated in the range of 0.9:1 to 2.4:1.

The business case for the new strategy was further enhanced by other benefits such as additional tax revenues from tourism, reductions in emissions, and reductions in health care costs due to a more active population. SDG suggested that with just a 0.5% increase in visitors through lengthened / overnight stays or through repeated visits to the GTA, the wayfinding system could result in as much as \$50 million in additional annual tax revenues, though the majority of these tax revenues would go towards the federal and provincial governments. Wayfinding could also encourage tourists and residents alike to explore alternative areas, increasing the amount of pedestrian traffic. If pedestrian traffic were to increase by 10%, as an example provided by SDG, businesses could potentially expect an increase in trade of up to 10%, with retail businesses such as restaurants, fashion, and convenience stores particularly benefitting.

5.2.3 *Edmonton*

Like Toronto, Edmonton also commissioned a business case report for a new city wayfinding system in August 2014. A prototype map was created and installed at five locations in Downtown Edmonton.

Three sets of surveys were undertaken to measure the impact of the prototype wayfinding system, including: pre-installation street surveys, post-installation street surveys, and a self-completion survey on the Walk Edmonton website. The surveys included questions on travel and walking habits, spatial knowledge, opinion on the design of the prototype signs, and the influence that they could potentially have on travel behaviour if implemented on a wider scale throughout the city.

The survey results showed that the new wayfinding system would (percentage of people agreeing with the statement online / in street surveys in brackets):

- Increase people's confidence in knowing their way around (87% / 90%);
- Encourage exploration and discovery of an area (83% / 87%);
- Improve the overall image of Edmonton (79% / 83%);
- Increase visits to businesses in the local area (68% / 63%); and,
- Increase the frequency of visits to an area (67% / 61%).

The responses indicated that a new wayfinding system could have a positive return on investment for the City of Edmonton. Responses also indicated that there would be value in multi-media solutions (e.g. a smartphone app) as part of the project, in addition to the street signs.

6.0 Opinion on the Impact of an Improved PATH Wayfinding System

6.1 The Issue

As our updated economic impact analysis indicates, the economic benefits of the PATH system are already significant. However, we believe it is likely underperforming largely due to the existing wayfinding system. This is underpinned by three specific factors:

- The inability of the existing mapping and signage to give new users and tourists confidence with respect to their route and the destinations along the way. This leads to reduced movements and reduced spending on both retail and tourism-related activities, especially during inclement weather which the PATH is supposed to provide relief from.
- Lack of shopper comfort and familiarity with retail services in the PATH system, even for experienced locals, leading to uncertainty about using the PATH system and a loss of spending, retail expansion, and job and economic growth.
- The lack of clarity of routes and walking distances puts unnecessary additional pressure on the Downtown subway system, especially the congested Yonge Line.

Consider the following examples:

- A tourist staying at the Sheraton Centre in January. If that visitor was interested in visiting the Hockey Hall of Fame, and reliant on the PATH, the existing wayfinding map could easily discourage them from making that trip. The opportunity for the visitor to have a positive experience is lost, along with spending at the destination and along the way.
- An employee in an office tower, connected to the PATH. If that employee has to travel to a meeting, if they have any doubt on the most direct PATH route, they are likely to take the street rather than risk being late, thereby negating any opportunities to be exposed to retail spending opportunities.

The current system is confusing to even the most seasoned user, let alone a new visitor leading to discomfort and anxiety associated with getting lost and extended travel times. The wayfinding system is over 25 years old and was not designed for the extent of the current PATH system or with the needs of today's users in mind. As such, we believe the current wayfinding system acts as a disincentive for anyone who is not well-versed in navigating the PATH system, which could lead to lost sales and tax revenues along with other broader municipal benefits.

6.2 The Opportunity

The Downtown has experienced significant growth in both employment and new residents over the past 10 years and is positioned for continued strong growth. As such, the demand for the amenities

offered by the PATH system and opportunities to achieve broad municipal benefits will increase. However, in our view, these benefits will not be fully realized with the existing wayfinding system.

Though our research on wayfinding does not focus specifically on underground retail systems, it is obvious that increasing a user's comfort in their surroundings via a proper wayfinding system has benefits that extend well beyond the costs to design, install, and maintain the new wayfinding system. People are likely to visit more often and for longer periods if they are comfortable in their surroundings and able to find their way around. The positive impacts incurred from quantifiable benefits such as time savings and decreased congestion outweigh the costs in the wayfinding cases we researched, without taking into account the impact of increased pedestrian traffic on business activity and property values.

It is logical to assume that if the wayfinding system in the PATH were improved to increase its ease of use, the number of visitors to the PATH would increase. As the number of visitors increase, it is reasonable to assume that sales revenues will increase as planned and impulse purchases rise. In fact, some research has shown that 90% of people make occasional impulse purchases that they otherwise did not plan to make¹². The PATH would be foregoing some of these sales if the number of visitors is not maximized.

To illustrate the possible impact of increased use of the PATH system due to an improved wayfinding system, a 1% increase in visitors could lead to an additional \$17 million in sales revenues per year, adding an additional \$2 million per year in sales tax. If the 1% improvement is also applied to property values as sales revenues (and presumably lease rates) increase, this would add an additional \$285,000 per year in property taxes. Over 10 years, the net present value of that modest increase would have a value to the City in 2016 dollars of approximately \$2.5 million (discounted by 3%). These numbers do not account for additional retail that will be added in coming years and do not account for the positive impact that a more frequently used PATH system would have on transit use and visits to tourist destinations connected to the PATH.

Currently, the PATH system is used largely during morning and afternoon peak hours, in addition to the lunch hour. With an improved wayfinding system increasing Toronto resident and visitor confidence navigating the PATH, we believe it is also possible that activity could increase in off-peak hours, providing further benefits from a business perspective.

The PATH is about to expand considerably. With buildings such as 100 Adelaide Street West, Bay Adelaide Centre East, 16 York Street, and One York set to include connections to the PATH, and other large-scale proposals like 1 Yonge Street, 30 Bay Street, and Bay Park Centre currently in pre-construction, the opportunity for expanded economic and community benefits increase along with the need for an improved wayfinding system that is easier to use and understand.

¹² Brandon Gaille – 18 Dramatic Impulse Buying Statistics, September 15, 2014

6.3 Opinion

From our research over the past five years, our experience in the development industry, and the experience of others, it is clear that the current wayfinding system is inadequate to meet the needs of visitors, workers and residents of Toronto. Designed in 1987, the Downtown has become a different, more vibrant and active core, home to thousands of new jobs and residents. As the core has changed so has the demand profile of its population and its needs. Numerous surveys with user groups from all sectors confirm what has been long suspected; the system is confusing. This simple fact underpins an obvious economic impact. If people are uncomfortable with something, they are less likely to use it.

In the case of the PATH, this translates to loss of retail and tourism spending. This study confirms the significance of the economic impacts of a new wayfinding system measured in terms of factors such as job creation and tax revenue. As pointed out, even a small increase in spending as a result of increased use has a significant financial impact to the City.

What is more difficult to measure, and undoubtedly significant, are the non-quantifiable impacts associated with benefits such as improved visitor experiences, increased marketability of office space, and the overall role the PATH plays in contributing to the vibrancy of Downtown Toronto.