

Appendix O

Economic Effects Assessment Technical Memorandum



99 Hudson Street, 3rd Floor, New York, NY 10013-2815
T: 212-977-5597 | F: 212-977-6202 | www.hraadvisors.com

TECHNICAL MEMORANDUM

TO:	Waterfront Toronto
FROM:	HR&A Advisors, Inc.
DATE:	May 28, 2010
RE:	Don Mouth Naturalization Project: Economic Effects Assessment

Introduction

The Don Mouth Naturalization and Port Lands Flood Protection Project (hereafter, “Project” or “DMNP”) addresses three opportunities identified in Chapter 2 of the DMNP Environmental Assessment: it removes flood risk within a specified area, creates a functional ecosystem, and provides opportunities for the revitalization of an underutilized waterfront area.

These actions may be viewed in aggregate as a substantial economic development project for the revitalization of the waterfront and the growth of the City of Toronto and Greater Toronto Area as an urban economy. By making the Lower Don Lands area, consisting of approximately 30 hectares in proximity to the downtown core, available for dense, transit-friendly mixed use development, by providing over 17 hectares of contiguous attractive public open spaces and ecosystem components necessary to support this development, and by providing flood protection for an additional 190 hectares of existing housing, employment-generating uses, and potential future residential development, the DMNP will generate a range of economic benefits. The purpose of this memorandum is to delineate and, where possible, quantify those benefits.

This memorandum is organized into four sections: first, the overall findings of the economic effects assessment study are summarized; second, the methodology applied to the economic assessment is described; third, the effects assessment during construction of the Project is described in detail; and fourth, the effects assessment during and post-establishment of the Project is described in detail.

Summary of Findings

The DMNP Project may best be thought of as both:

- A series of direct infrastructure investments by public entities concerned with the development of the waterfront, which produce both direct and indirect benefits; and
- A catalyst for future investments by both public and private entities that will in turn produce their own benefits.

This assessment is concerned primarily with the first category of benefits, but acknowledges that the second category of benefits becomes possible only once the DMNP investments have been made. In the absence of catalytic infrastructure investments on the waterfront, the longer-term, city-building actions that will support Toronto and the region's future growth cannot be undertaken.

The Project, therefore, will serve the following economic functions in the growth and development of Toronto and the region:

A major public works project with strong multiplier effects. The improvements have an anticipated direct capital cost of \$634 million in 2010 dollars, to be phased over 10 years. These capital expenditures are anticipated to consist of a range of materials purchases, many of which will take place within the local economy, and employment of construction labour and use of equipment, which creates local jobs: over 3,900 full-time equivalent job years will result from the direct capital expenditures. Local expenditures produce "multiplier effects" within the regional economy as businesses and employees service businesses involved in the construction project and service employees whose compensation is sourced from the Project. The DMNP project will have a strong multiplier effect, resulting in total economic activity of more than \$1.2 billion and 8,800 full-time job years of employment over the life of the Project.

A catalytic land and infrastructure development that produces immediate benefits for Toronto. Perhaps more than any other waterfront revitalization project being undertaken by the City of Toronto and Governments of Ontario and Canada through Waterfront Toronto, the DMNP fulfills the vision of a large scale waterfront revitalization that positions Toronto for the type of dense, transit-oriented growth that will make the City and region competitive in the 21st century. The immediate benefits of flood protection, ecosystem and open space creation are:

Making land suitable for real estate development. More than 230 hectares of land become flood protected through the DMNP works: 30 hectares west of the Don Roadway will be permitted for a change in land use through the proposed amendment to the Central Waterfront Secondary Plan described in the Lower Don Lands Infrastructure Master Plan and Keating Channel Precinct Environmental Study Report, which proposes development in the Keating Channel and Don River Precincts of approximately 12,000 residential units and 3 million square feet of commercial development, while an additional 3,200 units are presently permitted on land that will become flood protected east of the Don Roadway. While development of the precinct is subject to additional public and private investment, the proposed improvements make possible the creation of land value, more than half of it on publicly-owned land, and the economic impacts of urban mixed use development, a core goal in the revitalization of Toronto's downtown waterfront. A gross increase in land value of approximately \$480 million, approximately 53% or \$250 million of which would accrue to publicly-owned land, is likely to be the result of infrastructure improvements in the Lower Don Lands and Keating Channel Precincts, including both the DMNP and a series of additional local service infrastructure improvements that have not been accounted for in the present assessment.

Providing opportunities for living and working in high-quality urban spaces. Many observers have judged that Toronto's future economic success will depend on establishing robust growth in the financial, professional services and creative sectors, in which the City presently has an advantage relative to the surrounding region. Toronto's North American and international competitors have continued to enhance the urban living and working experiences that are

valued by many of the knowledge workers that drive growth in these sectors. If combined with Toronto's quality of life attributes – including its cultural diversity, the relatively robust condition of its municipal and transportation infrastructure, and the availability of significant regional recreation amenities – the creation of dense urban housing for 19,000 residents and employment areas for 14,000 workers in the Lower Don Lands and Keating Channel Precincts provides the city with a means of continuing to compete for this growth.

Creating signature local and regional open spaces and recreation areas on land and in the water. The creation of a new Don River mouth and a promontory park on both of its banks, and expanded access to Lake Ontario along an extended Don Greenway through the lands impacted by the Project, offer a 17-hectare signature network of open spaces and recreation areas that is likely to be used by regional residents, workers and visitors. As local amenities, this network of spaces is critical to supporting the incremental land value generated for precinct real estate, as it provides an appealing amenity for new residents and workers to enjoy. As regional destinations, the river, park and greenway generate new value in the city and region as Torontonians and 905-residents, as well as tourists, are likely to use the spaces in a variety of recreational ways. This benefit could produce an increase in the value of existing property south of King Street between Spadina and Leslie alone of between \$200 and \$400 million, based on precedent studies of the value of new open space. This gain in the value of existing property would be sufficient to increase municipal property taxes by \$3-6 million per year.

Reducing environmental and natural hazards for existing residents and businesses. The DMNP, as proposed, will mitigate potential flood damages for existing property and will remove brownfield liability and remediation cost by routing the river through property with significant contamination. The 200 hectares of land in the Port Lands area east of the Don Roadway, and in the South Riverdale and Eastern Avenue Employment Areas – including more than 600 single-family homes – would avoid flood damages in the event of a regulatory event. The provision of flood protection for more than \$1.6 billion in property in these areas would result in avoided damages in the order of \$305 million in the event of a regulatory flood. Throughout the DMNP area, while contamination will remain on a number of potential development sites, approximately 80 hectares in the valley system and promontories will be cleaned of contaminants or risk managed, while other areas will eventually be remediated through the development process. While some contaminated soils remaining in the area will need to be risk managed, the overall cleanup provides a substantial environmental and economic benefit.

A targeted urban land development that reduces the environmental and municipal costs of Toronto's next stage of growth. It is unlikely that new precinct development within the DMNP-affected lands can be considered entirely "net new" to the region – that is, given growth projections for the City of Toronto and Greater Toronto Area, the approximately 19,000 new residents and 14,000 workers in the fully-built out precincts west of the Don Roadway would be likely to locate elsewhere in Toronto or the region in the absence of the Project. However, the fact that flood protection and infrastructure provides a significant incentive for this growth to occur in the Lower Don Lands suggest that the *externalities*, or hidden costs, of this growth are significantly or entirely mitigated. Relative to development at the outskirts of the City of Toronto or on suburban greenfield land in 905 or exurban agricultural land north of the Ontario Greenbelt, development resulting from the DMNP is likely to:

Generate less traffic congestion. Closer proximity to the central business district and a higher likely use of mass transit, pedestrian and bicycle modes for Lower Don Lands development avoids an increase in vehicular traffic on the region's highways. Regional congestion, which costs commuters \$3.3 billion annually in lost productivity and reduces economic activity by approximately \$2.7 billion annually, would be mitigated by the central location of development that is catalyzed by the DMNP.

Produce lower municipal service costs. High density development produces demonstrable cost reductions for both municipal operating and capital budgets, ranging from lower local road construction and maintenance costs to lower water and wastewater maintenance costs. The enhanced ecosystem benefits enabled by the DMNP enhance this impact relative to single-family or medium-density development elsewhere. Estimates of these impacts suggest a municipal service cost reduction of approximately 10% is possible for development catalyzed by the DMNP.

Preserve greenfield, and possibly agricultural, land in the GTA. By locating development within a brownfield area and enabling it to be built at higher densities, the DMNP catalyzes development that would otherwise be likely to require development in the Lower Don Lands and Keating Channel Precincts of more than 800 hectares of land elsewhere in the GTA, assuming it would be developed at 10 dwelling units per hectare. Given that development to serve new regional growth may take place on greenfield lands, and in many cases in the future threaten to absorb agricultural lands outside the Ontario Greenbelt, this provides significant environmental benefits. Recent studies valuing ecosystem benefits suggest an annual value of maintaining greenfields at \$3,487 per hectare, suggesting an annual externality mitigation of more than \$5.5 million resulting from the DMNP Project. The value of agricultural lands in Ontario, which is included in the total value of greenfields, is \$477 per hectare.

An enabler of future growth. While the benefits listed above are direct effects of the DMNP investments over time, other benefits are contingent on additional actions by public and/or private entities:

Economic benefits resulting from public and private investment. While the DMNP Project creates the potential for currently underutilized land in the City's core to support future development, that development is subject to public investment in local infrastructure and private investment in real estate and amenities. The costs and benefits of these investments are to be fully gauged in the Class Environmental Assessments for the Lower Don Lands Infrastructure Master Plan and Keating Channel Precinct Environmental Study Report. Nonetheless, when fully built out by approximately 2030, the estimated market value of new development west of the Don Roadway of \$6.8 billion from 12,000 new residential units and 3.2 million square feet of commercial development would produce approximately \$54.5 million in property taxes per year for the City of Toronto, and \$25.5 million in new provincial and federal sales taxes. These economic benefits would not be created in the absence of the DMNP improvements, and would be economic benefits whose associated environmental and municipal costs would be substantially lower than those associated with development located elsewhere, as discussed above.

Economic benefits resulting from longer-term changes in market conditions. An additional 3,200 units that could be developed east of the Don Roadway as a result of the DMNP's removal of flooding risk have less certain development timelines and are therefore more difficult to

quantify. The DMNP facilitates intensification or replacement of *current uses* on these lands – which are largely light industrial and manufacturing uses, including a burgeoning film production cluster, with a limited amount of large-format retail in the Eastern Avenue Employment Areas and a number of single family houses north of Eastern Avenue. However, growth into a mixed use precinct supporting the economic benefits described above cannot be projected over a 20-year timeframe. It is likely that as development patterns continue over the longer term, the Port Lands east of the Don Roadway, Eastern Avenue Employment Areas, and South Riverdale neighbourhood would be well-positioned for mixed use growth. East of the Roadway, then, some short- and medium-term intensification benefits are likely. Benefits from new land uses will materialize over a longer-term and produce economic and fiscal benefits at that time: the development of 3,200 additional residential units has the potential to create an increment of \$95 million in gross land value, approximately 70% (\$65 million) of which would accrue to publicly-owned land.

Description of the Proposed Project

There are two primary elements of the DMNP that will produce substantial economic and social benefits for the City of Toronto and the region:

- Re-routing and re-naturalization of the mouth of Don River to provide regulatory flood protection for the Keating Channel and Don River Precincts, the area of the Port Lands east of the Don Roadway, South Riverdale, and the Eastern Avenue Employment Areas;
- Creation of 17 hectares of new open space, including promontory parks along the mouth of the River and an extension of/connection to the Don Valley Trail system and creation of over 40 hectares of aquatic, wetland, and terrestrial habitat.

The Project's use of landscape and urban design, and state-of-the-art technologies and science, combined with progressive ecological management principles, provide environmental, economic, and social impacts that improve upon the existing conditions in the study area.

Methodology

HR&A Advisors, Inc., a real estate and economic development consulting firm, conducted an economic effects assessment of the DMNP as part of the Individual Environmental Assessment for the Project. The assessment was conducted in late 2009/early 2010 and consisted of a detailed review of the proposed actions and of the actions specified in other planning documents including the Class Environmental Assessments for the Lower Don Lands Infrastructure Master Plan and Keating Channel Precinct Environmental Study Report; collection and analysis of data related to built areas, employment activity, residential population and spending, and tax generation; and review of economic impacts within a range of precedent projects in other jurisdictions both within Canada and internationally.

The methodological approach for conducting the assessment was as follows:

1. Definition of Study Areas

As the DMNP actions can be expected to have both direct economic impacts on the use and function of lands in its immediate vicinity, and indirect and related economic impacts on the city of Toronto and its surrounding region, two study areas were generated in order to allow differentiation of these impacts.

Real Estate and Neighbourhood Development Study Area:

The study area includes those lands whose potential levels of real estate and employment activity will be directly impacted by the Don Mouth Naturalization Project, primarily through the removal of flooding risk from those lands. This study area is a subset of the Impact Assessment Study Area defined in the DMNP EA. Likely effects of the DMNP in this study area are:

- Direct spending and employment from construction of infrastructure improvements
- Incremental real estate benefits resulting from flood protection
- Economic activity and taxes generated by new development
- Provision of ecosystem benefits including significant open space

The boundaries of the study area include all lands within the Keating Channel Precinct, the Don River Precinct, the Port Lands area east of the Don Roadway and north of the Shipping Channel (Spill Zone 1), the Eastern Avenue Employment Lands and a portion of the South Riverdale neighbourhood (Spill Zone 2).

City and Regional Study Area:

The study area includes the municipal economy as a whole, and in some cases the surrounding Greater Toronto Area region, which will gain the benefits from relatively dense, mixed use residential and commercial development within its boundaries, including:

- Indirect spending and employment from construction of infrastructure improvements
- Avoidance of environmental and municipal service costs from less dense development that would otherwise be likely to occur in another location
- Economic competitiveness benefits of providing housing and commercial tenancy opportunities in an attractive urban location proximate to the central business district

2. Identification of Drivers of Economic Activity

The drivers of economic activity within the study areas were then identified and categorized, both during construction of the Project and during and post-establishment. These drivers consist of spending on infrastructure improvements, real estate development enabled by the infrastructure improvements, and amenities and ecosystem benefits resulting from the infrastructure improvements.

3. Effects Assessment

The economic effects resulting from the drivers were then assessed. These effects may be quantitatively identified, e.g. the incremental land value and public revenues, or qualitatively identified, e.g. the creation of a new ecosystem that supports future sustainable development.

Effects Assessment

I. Effects During Construction Period

A. A major public works project with strong multiplier effects.

Study Areas

Construction activities would take place within the Real Estate and Neighbourhood Development Study Area. Employment of construction labour, purchase of materials, and the indirect and induced “multiplier” spending associated with these activities would take place within the City and Regional Study Area.

Drivers of Economic Activity during Construction Period

The Project infrastructure improvements have a total anticipated capital cost of \$634 million in 2010 dollars¹. The construction project is expected to be phased over a period of 10 years.

Effects Assessment

Construction expenditures will have the following economic impacts:

Gross Economic Output Related to DMNP Infrastructure Investment

Total Direct Infrastructure Investment (\$2010)	\$634 million
Total Indirect Activity	\$326 million
Total Induced Activity	\$271 million
Total Economic Activity	\$1,231 million

Source: For direct investment: Hanscomb estimate; For indirect activity: Statistics Canada Open Interprovincial Input-Output Model; For induced activity: HR&A-derived ratio of induced gross output to direct output from comparable economic impact studies, e.g. *Economic Impact of Gardiner Expressway Alterations* (Deloitte for TWRC, October 2004). Estimate includes induced benefits in all of Canada. The majority of benefits are expected to accrue within Ontario.

Construction Period Employment Related to DMNP Infrastructure Investment

Total Direct Employment	3,900 full-time equivalent jobs
Total Indirect Employment	2,100 full-time equivalent jobs
Total Induced Employment	2,800 full-time equivalent job years
Total Employment	8,800 full-time equivalent jobs

Source: For direct investment and indirect activity: Statistics Canada Open Interprovincial Input-Output Model; For induced activity: HR&A-derived ratio of induced gross output to direct output from comparable economic impact studies, e.g. *Economic Impact of Gardiner Expressway Alterations* (Deloitte for TWRC, October 2004). Estimate includes induced benefits in all of Canada. The majority of benefits are expected to accrue within Ontario.

¹ Source: Lower Don Lands Conceptual Estimate for Construction, Hanscomb, March 5, 2010.

II. Effects during Establishment and Post-Establishment

A. A catalytic land and infrastructure development that produces immediate benefits for Toronto.

Perhaps more than any other waterfront revitalization project being undertaken by the City of Toronto and Governments of Ontario and Canada through Waterfront Toronto, the DMNP fulfills the vision of a large scale waterfront revitalization that positions Toronto for the type of dense, transit-oriented growth that will make the City and region competitive in the 21st century. The immediate benefits of removal of flood risk, ecosystem and open space creation generate a platform for new economic benefits through four primary mechanisms:

1. Making land available for real estate development.
2. Providing opportunities for living and working in high-quality urban spaces.
3. Creating signature local and regional open spaces and recreation areas on land and in the water.
4. Reducing environmental and natural hazards for existing residents and businesses.

Study Areas

Real Estate and Neighbourhood Development Study Area

Property in the Keating Channel Precinct, the Don River Precinct, the Port Lands area east of the Don Roadway and north of the Shipping Channel (Spill Zone 1), the Eastern Avenue Employment Lands and the South Riverdale neighbourhood (Spill Zone 2) will experience benefits in property values resulting from flood protection offered by the Project and amenities, including access to new public open space. The Project will create opportunities for properties west of the Roadway to change use and intensify, while properties east of the Roadway will be able to intensify and develop new uses permitted by the Central Waterfront Secondary Plan, including some housing south of Lake Shore Boulevard.

City and Regional Study Area

The Project will generate significant benefits for the City and the Greater Toronto Region, including enhanced amenitization through public open space and connectivity to the waterfront.

Effects Assessment

1. Making land available for real estate development.

For all lands within the Real Estate and Neighbourhood Development Study Area, the DMNP reduces the risk of flooding to an extent that will protect any new development from a Regulatory Flood. The lands either fall within Spill Zones 1 and 2 or would not have sufficient ingress and egress during flood conditions to support new development.

The Project is necessary to support creation of a new mixed-use neighbourhood connected to the urban fabric of downtown Toronto and the other waterfront precincts. Currently, the precincts west of the Don Roadway (Keating Channel and River Precincts) are dominated by a variety of industrial uses and vacant land. As discussed above, the use and intensification restrictions imposed as a result of the existing Regulatory Flood risk limit the intensification of

existing uses and prohibit changes in land use to higher value use types – commercial and residential development.

Real Estate Development: West of Roadway

The Project enables development of new land uses within the precincts affected by the DMNP where a new allowable land use under the Secondary Plan is contemplated. This is the case for future uses in the Keating Channel and Don River Precincts, also known as the Lower Don Lands. At a key location between the Don River and the Inner Harbour as well as Downtown and the Port Lands, the Lower Don Lands area currently consists of low density industrial and municipal uses, including Toronto Hydro and the Toronto recycling plant. The Precincts are currently bisected by rail links to area businesses and industries, the Don Rail Yard, water and sewer utilities, gas pipelines, hydro transmission lines, and roads.

Absent the Project, changes in land use would not be permitted by provincial regulation: lands both within and outside the Special Policy Area (SPA) may not modify their land use, and may intensify only under constrained conditions. The DMNP actions enable a change in use to occur provided a change in the Secondary Plan also occurs. At present, a Secondary Plan change is proposed for the Keating Channel and Don River Precincts west of the Don Roadway, and therefore a change in land use and intensification is enabled in this precinct.

After DMNP improvements, proposed zoning would allow development in line with the Lower Don Lands Infrastructure Master Plan and Keating Channel Precinct Environmental Study Report, which call for development of slightly more than 12,000 residential units and over 3 million square feet of commercial development over approximately 20 years.² Build-out is expected to start after 2020 following the absorption of space in East Bayfront and West Don Lands precincts.

Real Estate Intensification: East of Don Roadway

The City's Official Plan and the Central Waterfront Secondary Plan provide for the future evolution of the balance of the Port Lands, Eastern Avenue Employment Area, and South Riverdale neighbourhoods east of the Don Roadway. However, the substantial redevelopment of these areas will take place slowly, if at all, due to the presence of many static public facilities, the lack of large contiguous parcels of vacant land suitable for redevelopment, and the volume of development activity in the Central Waterfront. In the short to medium term, the most likely activity is the modest redevelopment and/or intensification of small sites.

South Riverdale

The portion of this neighbourhood that is in the Real Estate and Neighbourhood Development Study Area is a mix of residential and commercial uses. Its housing stock contains more than 600 single-family Victorian units built during the early 1900s.³ In addition, the district is recognized for its strong arts community. The neighbourhood has a range of arts institutions from small galleries to major film studios located on the southern portion near the Port Lands. No change in land use or density is presently contemplated by the City of Toronto in this area.

² Based on the proposed development program within the Lower Don Lands Infrastructure Master Plan and Keating Channel Precinct Environmental Study Report.

³ From Address Location Data from the City of Toronto, provided by TRCA, February 2010.

Eastern Avenue Employment Areas

The City of Toronto has designated the lands generally bounded by the Don Valley Parkway, Eastern Avenue, Woodfield Road and Lake Shore Boulevard East, as the South of Eastern Secondary Plan area. The area is an established employment district and the Secondary Plan seeks to preserve and enhance the health of the employment district by protecting it exclusively for employment growth. As a result, no change in land use or density is presently contemplated by the City of Toronto in this area. Uses such as film, media, business services, communications, information technology, new media, and cultural/creative sectors are particularly encouraged, in addition to typical manufacturing, warehousing, distribution and office uses. Retail uses are only permitted at a scale and function that support the employment uses. Intensification of these areas is likely over the medium- to long-term as the City and waterfront economies grow.

Port Lands, East of the Don Roadway

The area of the Port Lands east of the Don Roadway contains a mix of commercial, industrial, and open spaces built on land reclaimed Ashbridge's Bay. Major industries include those requiring large sites, such as bulk product storage (mainly salt), utilities, and transportation related uses. The establishment of the Filmport district supports the potential conversion of industrial spaces to large studio uses in the future. This area is permitted for the development of approximately 8,000 new residential units by the Central Waterfront Secondary Plan. Approximately 3,200 of these units can be allocated by land area to the portion of the area north of the Shipping Channel, which would have its risk of flood reduced by the DMNP.

The following program of uses is likely to develop in the study area over the long-term:

Current and Proposed Uses for Real Estate and Neighbourhood Development Study Area

			Proposed Use	
DMNP Impact		Current Uses	Residential	Commercial
Keating Channel Precinct	Land east of Cherry Street are in Spill Zone 2; lands west of Cherry Street would not achieve required ingress and egress during flood conditions to enable development	Primarily vacant industrial land	3,900 units	~ 2.5 million SF
Don River Precinct	Land east of the Don Roadway and a portion of lands west of the Roadway are in Spill Zone 1; additional lands west of the Roadway would not achieve required ingress and egress during flood conditions to enable development Overall liability from brownfield contamination reduced by DMNP improvements in “hot spots”	Primarily industrial, commercial and vacant land	8,100 units	~ 0.5 million SF
Total: Precincts west of Don Roadway			12,000 units	3.2 million SF
Port Lands, east of the Don Roadway, north of the Ship Channel	Lands are in Spill Zone 1 and are therefore protected from Regulatory Flood	Primarily industrial and vacant land	3,200 units, likely to develop outside a 20-year timeframe	No change in use proposed; some intensification of existing uses is likely to occur
Eastern Avenue Employment Lands	Lands are in Spill Zone 2 and are therefore protected from Regulatory Flood	Primarily industrial and commercial	No change in use proposed; some intensification of existing uses is likely to occur	
South Riverdale	Lands are in Spill Zone 2 and are therefore protected from Regulatory Flood	Primarily residential; more than 600 single-family homes	No change in use proposed; some intensification of existing uses may occur	
Subtotal: Precincts east of Don Roadway			3,200 units outside a 20-year timeframe, plus intensification of existing uses	

Of these allowable uses, those in the precincts west of the Don Roadway are likely to occur over a 20-year time period, while residential uses and substantial redevelopment east of the Roadway is a longer-term proposition.

A shift to commercial and residential uses, as well as the potential for increased density, presents significant potential for new development to be created in the Keating Channel and Don River Precincts. While development of the precincts are subject to additional public and private investment, the proposed improvements and lifting of land use restrictions make possible the creation of land value, more than half of it on publicly-owned land. HR&A estimates that future gross land value of approximately \$500 million⁴ is achievable in the Keating Channel and Don River Precincts, prior to consideration of the need for local infrastructure improvements. Current land value in the Keating Channel and Don River Precincts is estimated to be approximately \$20

⁴ Based upon land values of \$30 per buildable SF for residential, and \$20 per buildable SF for commercial office uses. Source: Market Assessment Data, Waterfront Toronto, IBI Group.

million,⁵ indicating an incremental gross land value of approximately \$480 million. Given public land ownership in these precincts of up to 53%,⁶ as much as \$250 million of this land value could accrue to the public sector. It should be emphasized that the potential land value estimated above is prior to consideration of the cost of local infrastructure improvements.

2. Providing opportunities for living and working in high-quality urban spaces.

Like many industrial cities, the Toronto waterfront has been an underutilized asset. The waterfront is disconnected from the core of the Central Business District and contains a number of sites in need of remediation, reconfiguration, and repositioning. Toronto is following in the steps of many world-class cities and revitalizing its waterfront to include a mix of commercial and residential development combined with signature public spaces.

The Toronto Waterfront Revitalization Task Force Report (the Fung Report) was released in March 2000 and outlined a plan to revitalize the Toronto waterfront. For the Central Waterfront and the Port Lands in particular, this plan focused on the opportunity created by large areas of mostly publicly-owned, underutilized or vacant land adjacent to the city core and intermodal transportation and highway links, and endowed with a location between the central core, Lake Ontario, and existing parks and natural areas. The Central Waterfront Secondary Plan has set the direction and created the planning context for the revitalization efforts. The DMNP contributes to the City's goals for waterfront revitalization, redevelopment of the Port Lands and to Toronto's future growth.

The Project enhances downtown's liveability in ways that are respectful of the city's history and culture, and secures the downtown's economic and competitive position at the center of the region. By prioritizing parks and open spaces, Toronto acknowledges that the public realm is and will be both an important amenity for businesses and residents, and a highly visible aspect of the city's global identity.

Naturalizing the mouth of the Don River and laying the foundation for future waterfront neighbourhoods creates a unique opportunity to build vibrant, mixed-use neighbourhoods with connections to downtown, transit, open space, recreation, and the water, where, increasingly, people want to live and businesses seek to locate. Comparable cities in North America and around the globe have significant populations and thriving industries on revitalized waterfronts.

Successful revitalization of urban industrial waterfronts combines public infrastructure investment, including open space, with real estate development, to generate constituency and market activity. Arguably a leader in waterfront development, New York City has concentrated substantial effort and investment in formerly urban riverfront areas on the Hudson and East Rivers that have significant public land and resources. The City is in the midst of investing \$350 million to create Brooklyn Bridge Park, a signature park on the East River waterfront. Development parcels for residential development in the desirable areas bordering the Park have

⁵ Current land value estimated based upon average industrial land values of \$250,000 per acre, with 80% of existing 40 hectares of land in the Keating Channel and Don River Precincts developable. Source: Market Assessment Data.

⁶ Based on analysis of Waterfront Toronto land ownership data.

been identified, and the incremental public revenues from that future development will contribute to the on-going operations and maintenance of the Park. Similarly, the City is creating Hudson River Park. The development of the Park is stimulating development on the west side of Manhattan, as well as in under-utilized piers that have been made available for private redevelopment, including Piers 40 and 57. The amenitization of the west side supports development of an expanded central business district and substantial residential housing on Manhattan's west side over the next generation. This precedent for using waterfront to amenitize and provide housing and commercial development opportunities is among a number of Toronto's world competitors, and emphasizes the importance of providing opportunities for amenitized urban spaces for living and working near the city's core, as the DMNP does.

3. *Creating signature local and regional open spaces and recreation areas on land and in the water.*

The Project is slated to create a substantial amount of new public open space, and to provide enhanced access to Lake Ontario through the Ship Channel greenway. The greenway will create a linkage from the Port Lands into the Don Valley trail system, which is an important recreational bike system that extends from the river valley down to Lake Ontario Park. Despite the lack of connectivity, the section of the trail north of the Gardiner Expressway currently has approximately one million annual users, indicating a strong demand for the system and extensive future usage of the greenway.

The new River Mouth and the park spaces along both of its banks are likely to generate significant local and regional amenity value. Promontory Park will be the terminus of the Central Waterfront linear park system and will act as a landscape icon for the City. It will serve as a direct amenity for the new waterfront communities, but, as a major open space in a new neighbourhood served by public transportation, it also has the potential for a strong regional draw.

Naturalization of the Lower Don Lands will support recreational opportunities that currently do not exist within the study area. The creation of approximately 17 hectares of open space and a variety of new and improved pedestrian and cycling trails will increase recreational value of the Keating Channel and Don River Precincts. While the construction of the promontories will decrease the amount of navigable water in the Inner Harbour, the creation of a new river mouth will improve recreational boaters' enjoyment of the area and will create a shoreline with greater value for recreational boating.

The creation of quality neighbourhood open spaces within the development precincts will generate utility for residents and workers in the precinct, as well as regional visitors, which has the following economic benefits:

- *Recreation and enjoyment for regional users:* The waterfront is also a significant visitor destination. While there is not specific data on the number of waterfront visits, visitors regularly mention the Toronto waterfront as one of their favourite areas, even in the off-season. Destinations include Harbourfront Centre, the waterfront walkway, and the

Islands.⁷ Based on the experiences of several major North American cities, such as Baltimore and San Francisco for which revitalized waterfronts have become significant tourist destinations, Toronto's waterfront is likely to draw even greater numbers of tourists as new development continues.

For example, Barcelona led a successful revitalization of its waterfront in the 1990s, converting a number of industrial sites on the waterfront to retail, residential and open space uses and expanding connectivity to the water by extending La Rambla, the city's popular pedestrian thoroughfare. Barcelona's waterfront revitalization, in conjunction with its other activities elsewhere in the city, catapulted the city to the fourth most-visited destination in Europe and nearly tripled its annual visitation from 1990 to 2008.

- Increased property values resulting from open space amenities: Recent studies suggest that signature parks, and high quality open space in general, drive incremental property values in adjacent neighbourhoods. A study estimated that Chicago's Millennium Park would support 25% of the incremental residential value in the surrounding district in the first 10 years of operation, amounting to approximately \$1.4 billion in property value.⁸ It is estimated that Hudson River Park, a signature waterfront park in New York City, accounted for 20% of the increase in Greenwich Village property values from 2002-2005.⁹ The first phase of Park was completed in 2003.

Development of open space amenities in the study area is likely to drive increases in property values throughout the Real Estate and Neighbourhood Development Study Area outlined above, in addition to the neighbourhoods adjacent to the waterfront – an area encompassing the property south of King Street between Spadina and Leslie Streets.¹⁰

Previous studies have found that open space can exert a positive impact on residential and commercial property values more broadly, in a radius of up to 0.8 kilometres of the open space. A study of open space in Portland, Oregon found a 2% price premium for residential units located within 460 metres of an urban park, and up to a 16% price premium for residential units located within 460 metres of a natural park.¹¹ If the property value in the waterfront neighborhoods described above experienced modest increases in property values of one to two percent, which is at the low end of this scale,

⁷ Source: Tom Griffin, Tourism Business Analyst at Tourism Toronto, 2009.

⁸ *Millennium Park Economic Impact Study*, Gordon Williams Group and URS Corporation on behalf of the City of Chicago, April 2005.

⁹ *Impact of Hudson River Park on Property Values Study*, Regional Plan Association on behalf of the Hudson River Park Trust, September 2009.

¹⁰ This study area was selected by HR&A based on a distance of just under one kilometre north of the open space, based upon findings in comparable jurisdictions. The study area extends from Spadina to Leslie to incorporate the property adjacent to the waterfront along the Queens Quay east-west corridor that provides easy access to the planned open space.

¹¹ Lutzenhiser, Margot, and N.R. Netusil. 2001. The Effect of Open Spaces on a Home's Sale Price. *Contemporary Economic Policy* 19(3): 291–98. Cited in *The Effect of Community Gardens on Neighboring Property Values*, Been, Vicki and Ioan Voicu, 2008.

aggregate property value would increase by \$200 to \$400 million, from which the City could gain an incremental \$3 to \$6 million annually in property tax revenues.¹²

Potential Incremental Value from Proximity to Open Space Amenities

Total Property Value, 2009	\$20.6 billion
Potential Value Increment	\$206-\$412 million
Potential Property Tax Revenue Increment	\$3-6 million

Incremental property value for the study area defined as all property south of King Street to the Lake, between Spadina and Leslie Streets.

4. Reducing environmental and natural hazards for existing residents and businesses.

The DMNP, as proposed, will mitigate potential flood damages for existing property and will remove brownfield liability and remediation cost by routing the river through property with significant contamination.

- Reduction in brownfield liability and cost for the public sector and future development partners: A significant portion of the River Precinct is contaminated as a result of previous industrial uses. The DMNP public improvements will treat or dispose of a substantial portion of contaminated soil, reducing both the cost and liability related to brownfield cleanup on lands slated for development. Other areas will eventually be remediated through the development process. While some contaminated soils remaining in the area will need to be risk managed, the overall cleanup provides a substantial environmental and economic benefit.
- Avoided regulatory flood damages: The DMNP creates flood protection from the regulatory flood for existing and future potential development in the primary impact assessment area, including the Keating Channel and Don River Precincts and Spill Zones 1 and 2. Current uses include a variety of industrial development in the Keating Channel and Don River Precincts, and in Spill Zone 1. In Spill Zone 2, the project will provide flood protection for more than 600 single-family homes currently at risk.

In total, 230 hectares of land, encompassing more than \$1.6 billion in existing property value, would be protected by the DMNP. Approximately 200 hectares in the Port Lands east of the Don Roadway, South Riverdale, and Eastern Avenue Employment Areas are not likely to change use. These properties would benefit from avoided damages on the order of \$305 million, in the event of a regulatory flood.¹³

¹² In 2009 dollars; Based on an HR&A Advisors analysis of 2009 property assessment data provided by the City of Toronto Economic Development and Culture Division.

¹³ TRCA memo: *Supplemental Flood Damage Assessment for the Lower Don River Area*, February 2010.

B. A targeted urban land development that reduces the environmental and municipal costs of Toronto's next stage of growth.

Laying a foundation for the creation of a new mixed-use waterfront neighbourhood proximate to downtown Toronto, existing amenities and infrastructure, and current and planned transit investments presents an opportunity to promote future growth for the City and the region that reduces both direct municipal costs and “externality costs” to businesses and residents. Dense development patterns that can be woven into the urban fabric of the City rather than suburban development on greenfield sites elsewhere in the region reduces the amount of congestion from new development, produces lower incremental municipal service costs for new workers and residents, places less burden on the environment and preserves more agricultural land and open space.

Revitalizing the waterfront from industrial to alternative uses supports economic goals by providing residential and commercial space and creating public spaces and an urban experience that serve as an additional attraction to the city.

It is unlikely that new precinct development within the DMNP-affected lands can be considered entirely “net new” to the region – that is, given growth projections for the City of Toronto and Greater Toronto Area, the approximately 19,000 new residents and 14,000 workers in the fully-built out precincts west of the Don Roadway, which is likely to develop over a 20-year timeframe, would be likely to locate elsewhere in Toronto or the region in the absence of the Project. However, the fact that flood protection and infrastructure provides a significant incentive for this growth to occur in the Lower Don Lands suggest that the *externalities*, or hidden costs, of this growth are significantly or entirely mitigated. Relative to development at the outskirts of the City of Toronto or on suburban greenfield land in 905 or exurban agricultural land north of the Ontario Greenbelt, development resulting from the DMNP is likely to:

1. Generate less traffic congestion.

The official city employment forecast projects that the city will add 500,000 jobs by 2031, with total employment reaching 1.8 million. In addition to a comprehensive economic development strategy to attract businesses to the city and support business expansion, reaching this goal requires two basic inputs: space for people to work and space for people to live.

The proximity of the study areas to downtown and to existing and planned transit infrastructure represents an opportunity to create a compact neighbourhood that minimizes development footprint and incremental vehicle congestion on the city's and the region's roads. Vehicle congestion has been shown to consume substantial economic and social resources, including reduced economic output, the cost of time delays for auto and transit users, increased vehicle operating costs, environmental costs of higher emissions and more frequent accidents.

A November 2009 review by the Organization for Economic Co-operation and Development (OECD) found that traffic congestion in the Toronto region caused by urban sprawl, decades of underinvestment in public transit, and a disjointed system costs \$3.3 billion a year in lost productivity. The region's labour and economic productivity growth rates were below the average of OECD metropolitan regions between 1995 and 2005, mainly due to a significant decline in the manufacturing sector that has not been replaced with growth in other industries.

As Toronto represents 45% of Ontario's GDP and nearly 20% of Canada's GDP, this lack of growth in the region has significant impacts on the province and all of Canada. The review strongly suggests that greater coordination is needed between the city and the region to implement policies that reduce auto dependence. A 2008 study conducted in relation to the Metrolinx Draft Regional Transportation Plan estimated that congestion costs commuters in the Greater Toronto and Hamilton Area (GTHA) \$3.3 billion annually, and costs the region \$2.7 billion in lost economic activity. In Toronto alone, congestion costs commuters \$1.4 billion annually, amounting to \$555 per Toronto resident.¹⁴

2. *Produce lower municipal service costs.*

The improvements proposed under the DMNP and the composition of development proposed for the Keating Channel and Don River Precincts as a result of the Project produce lower on-going municipal services over time compared to development elsewhere in the region, in the absence of the Project.

- Reduction in municipal infrastructure service costs: Research has demonstrated that compact growth patterns also produce savings for local governments. Researchers from the Center for Urban Policy Research at Rutgers University estimate that more compact growth produces savings of 15-20% on local roads and 8-15% on water and sewer services.¹⁵ Benefits from more compact development in close proximity to downtown and transit include:
 - Fewer kilometres of roads to maintain
 - Fewer metres of water and sewer connections to maintain
 - Smaller patrol areas in denser neighbourhoods
 - Fewer vehicle kilometres on roads, reducing maintenance needs

The net impact on the City of Toronto budget of accommodating a substantial portion of projected growth in the region in the Lower Keating and Don River Precincts, as opposed to elsewhere in the region is likely to be up to 10% lower than suburban greenfield development.

3. *Preserve greenfield, and possibly agricultural, land in the GTA.*

Environmental remediation costs aside, the development of the Keating Channel and Don River Precincts at planned density levels requires less infrastructure investment per developed square foot than similar levels of investment at lower densities outside the city.

Efficient land utilization and compact development in the Port Lands helps to preserve open space elsewhere in the region. Benefits of preserving open space include:

- Carbon storage and absorption
- Air quality protection through oxygen creation and trapping pollutants

¹⁴ *Costs of Road Congestion in the Greater Toronto and Hamilton Area: Impact and Cost Benefit Analysis of the Metrolinx Draft Regional Transportation Plan*, HDR Corporation on behalf of Metrolinx, December 1, 2008.

¹⁵ *Costs of Sprawl – 2000*. Robert W. Burchell et. al. on behalf of the U.S. Transportation Research Board National Research Council, 2002.

- Water filtration and flood control provided by wetlands
- Crop pollination
- Biodiversity through seed dispersal
- Recreation opportunities
- Cultural and economic contributions of agricultural lands

A recent study estimated the overall value of ecosystem preservation and open space in the Toronto region at \$3,487 per hectare per year. Nearly 15% of this value (\$477 per hectare) is attributable to the value of preserving agricultural land.¹⁶ Opening up new land for compact development in the Port Lands helps to mitigate development that ‘leapfrogs’ the Greenbelt and consumes agricultural land.

The value of ecosystem protection resulting from building the proposed development in the Keating Channel and Don River Precincts, compared to developing it outside of the Greenbelt on open space and agricultural lands at suburban densities of 10 dwelling units per acre, would be more than \$5.5 million per year.

As discussed above, a number of these benefits – flood control, open space, and stormwater and wastewater control systems – will also increase land and property values in the region, by providing amenities for residents and workers and by mitigating potential costs of future damage.

C. An enabler of future growth.

While the benefits discussed above are direct effects of the DMNP investments over time, other benefits are contingent on additional actions by public and/or private entities:

1. Economic benefits resulting from public and private investment.

Residents and Employment: The development of the precincts west of the Don Roadway, and stable operation and intensification of properties east of the Roadway, will generate a substantially higher employment and residential base than is currently located in the Study Area.

There are currently no residential uses in the Keating Channel and Don River Precincts. Based on the proposed development program of roughly 12,000 residential units, the neighbourhoods created there would contain approximately 19,000 residents¹⁷. Although the construction of approximately 3,200 units east of the Roadway, with more than 5,000 new residents, is permitted and becomes feasible after the DMNP, the residential benefits are not included in this assessment as they are likely to occur beyond a 20-year timeframe.

The on-going use of 3.2 million square feet of new commercial space in the Lower Don Lands and Keating Channel Precincts will create employment areas for approximately 13,800

¹⁶ *Ontario’s Wealth, Canada’s Future: Appreciating the Value of the Greenbelt’s Eco-Services*, David Suzuki Foundation, September 2008.

¹⁷ Estimates from MMM, January 2009. Assumes 1.6 residents per unit, per guidelines from City of Toronto staff.

workers.¹⁸ There are approximately 10,000 workers currently in the entire DMNP study area¹⁹, 13% of which will likely be displaced as a result of the DMNP and new development. There will be an estimated 12,500 incremental permanent jobs created in the two Precincts west of the Roadway as a result of the new commercial development. In addition, some intensification of commercial uses east of the Don Roadway is likely to occur as a result of the DMNP's flood protection. We assume this area will have the capacity to develop at the same rate of growth as the City as a whole, which we estimate to be approximately 3% a year over 20 years. The net result of this employment growth is summarized in the table below, and represents incremental employment of approximately 17,000 workers over a 20-year development timeline.

Employment within Real Estate and Neighbourhood Development Study Area

	Current Employment	Do Nothing Employment	DMNP Employment
Lower Don Lands and Keating Channel Precincts	1,370	1,640	13,800
Port Lands east of the Don Roadway	2,840	3,410	5,130
South Riverdale and Eastern Avenue Employment Areas	5,950	7,140	10,750
Total	10,000	12,000	29,000

Source; City of Toronto, HR&A Analysis of Employment projections. For areas east of the Don Roadway, assumes 1% annual growth in the Do Nothing Employment scenario, and 3% annual growth in the DMNP Employment Scenario.

Incremental Public Revenue: The development of the Lower Don Lands and North Keating precincts will create substantial new sources of tax revenues for the City. The total market value of new development is estimated to be approximately \$6.8 billion (2010 dollars). This valuation is based on market value assumptions of \$300 per square foot for commercial use and \$400 per square foot for residential use.

The approximately 12,000 residential units and 3.2 million square feet of commercial space will generate approximately \$55 million in annual incremental property tax revenues for the City at existing rates.²⁰ In addition, the City and Province will accrue significant fiscal benefits through the incremental increases in school taxes (\$32.1 million at 2009 rates) and transfer taxes on the sale of residential units, and ongoing income and sales taxes from new residents and workers and retail spaces.

2. Economic benefits resulting from longer-term changes in market conditions.

An additional 3,200 units that could be developed east of the Don Roadway as a result of the DMNP's removal of flooding risk have less certain development timelines and are therefore more difficult to quantify.

¹⁸ MMM and the City of Toronto.

¹⁹ HR&A analysis of City of Toronto 2008 Employment Survey.

²⁰ MMM and the City of Toronto.

The DMNP facilitates intensification or replacement of current uses on these lands – which are largely light industrial and manufacturing uses, including a burgeoning film production cluster, with a limited amount of large-format retail in the Eastern Avenue Employment Areas and a number of single family houses north of Eastern Avenue. However, growth into a mixed use precinct supporting the economic benefits described above cannot be projected over a 20-year timeframe. It is likely that as development patterns continue over the long-term, the Port Lands east of the Don Roadway, Eastern Avenue Employment Areas, and South Riverdale neighbourhood would be well-positioned for mixed use growth. East of the Roadway, then, some short- and medium-term intensification benefits are likely. Benefits from new land uses will materialize over a longer-term and produce economic and fiscal benefits at that time: the development of 3,200 additional residential units has the potential to create an increment of \$95 million in gross land value, approximately 70% (\$65 million) of which would accrue to publicly-owned land.

Conclusion

The DMNP will be a transformative, catalytic project for the City of Toronto and the Greater Toronto Region, and will generate a range of substantial benefits for the City and the Region, including:

- *Strong economic multiplier impacts during construction*, including more than \$1.0 billion in economic activity and 6,000 full-time equivalent construction job years.;
- *Opportunities for new mixed use development in the city's core*, resulting from:
 - Flood protection and lifting of regulatory use restrictions;
 - Creation of vibrant places to live and work in desirable waterfront locations;
 - Creation of signature, active open spaces that function as regional attractions and amenities for new residents and workers;
 - Mitigation of significant flood and environmental contamination hazards.
- *Development that reduces externalities, or hidden costs, of development*, including:
 - Reduction in traffic congestion and associated productivity costs;
 - Reduction in municipal service costs associated with dense development in proximity to existing infrastructure and activity;
 - Preservation of greenfield, and possibly agricultural, land in the GTA;
- *Enabling of future growth*, with associated growth in residents and employment and public revenue from new development.