

REPORT

# LAND VALUE CAPTURE AS A SOURCE OF FUNDING OF PUBLIC TRANSIT FOR GREATER MONTRÉAL



OCTOBER 2014





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# LAND VALUE CAPTURE DISCUSSION PAPER

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Prepared by:

**George Hazel**  
Consultancy

George Hazel Consultancy Ltd  
3 Hill Street  
Edinburgh  
EH2 3JP

**E-Rail**

Edinburgh-Rail Ltd  
17 Rutland Street  
Edinburgh  
EH1 2AE

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National Bank of Canada is pleased to team up with internationally renowned public transit expert Dr. George Hazel and his team of international experts to make public this report on land value capture for Greater Montréal.

To find solutions to Québec's public finance issues and contribute to Greater Montréal's economic growth, National Bank of Canada has taken the initiative to mandate Dr. George Hazel and his team to analyze a new source of financing for public transit: land value capture.

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# The renaissance of public transit

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Our teams met with many decision makers in charge of several major public transit projects in Asia, Europe, and North America, and have observed a global worldwide renaissance of public transit and its positive impact on major cities:

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## Asia

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- ▶ Hong Kong: Already known as a leader in public transit—not only for its world-leading efficiency but also because it has the only self-financing system—Hong Kong’s MTR system continues to invest heavily in expanding its network to link it with high-speed train systems in China.
- ▶ China: Considered by the World Bank’s experts to be the century’s biggest railroad development, China’s project consists of building the largest high-speed train network in the world with 16,000 km of electrified lines linking the country’s major cities.

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## Europe

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- ▶ London: Construction of Crossrail, the largest building project in Europe, at a cost of £14.8 billion. Crossrail comprises a 100-km east-west subway line with 40 stations.  
  
Crossrail will boost London’s public transit capacity by 10%, and represents the largest capacity increase since World War Two. Travel times between Heathrow and London’s financial centre will be slashed from 55 to 32 minutes.

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## North America

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- ▶ New York City: Extension of subway line 7 costing more than US\$2 billion, which will link Javits Convention Center and western Manhattan to the public transit system, and enable completion of the Hudson Yards project.  
  
This 17 million square-foot project is not only the biggest real estate development in New York since the Rockefeller Center, but also the largest real estate project in the US.
- ▶ Toronto: Rail link project to serve Toronto’s Pearson Airport beginning in 2015. The Union Pearson Express will run every 15 minutes from Union Station in downtown Toronto. Total trip time will be 25 minutes.  
  
This project is part of the Big Move project to develop public transit in the Toronto and Hamilton region. This \$40 billion-plus project is aimed at tripling the number of kilometers covered by the public transit system over the next 25 years. This project also includes the \$600 million-plus renovation of Union Station — Canada’s busiest, with 240,000 passengers a day.
- ▶ Ottawa: Confederation Line, a \$2.1-billion light rail train (LRT) system that will replace hundreds of buses in downtown Ottawa.  
  
The 12.5-km line includes a 2.5-km underground portion in downtown Ottawa. This is Ottawa’s largest transportation infrastructure project since the construction of the Rideau Canal. The City of Ottawa has established a public-private partnership that includes financial commitments from the provincial and federal governments as well as a private sector team.

To ensure its long-term growth and maintain its creative leadership around the world, the Greater Montréal region needs modern public transit infrastructure that respects its budgetary and financial constraints with which we are all familiar.

The Québec government is committed to cleaning up public finances and it is important to find other proven financing avenues to help reach this objective.

Greater Montréal cannot allow itself to fall behind in the face of international competition; it must reclaim its leadership in public transit infrastructure.

There is no better example of the strategic importance of public transit infrastructure than the LRT project on the new bridge that will replace the Champlain Bridge, as well as the link serving the Montréal-Trudeau Airport and the West Island.

These two projects have been the subject of studies for years, and their completion by 2018, when the new Champlain Bridge is ready, should relieve congestion in Montréal once the much-anticipated overhaul of the Turcot Interchange gets underway.

The use of land value capture to finance public transit in Greater Montréal would enable a contribution from the private sector to help build new public transit infrastructure. According to our preliminary estimates, a substantial contribution from the private sector of up to 35% of the total infrastructure cost may be considered for these two major projects.

It would also help move up the completion of these major projects to 2018, when the new bridge is expected to be ready.

Greater Montréal has a number of assets that would enable it to develop this new source of financing for public transit:

- ▣ High population density along the intended routes for these two projects: with a population of 3.8 million (49% of Québec's population), Greater Montréal has a record 516 million annual passengers on its public transit system.
- ▣ Presence of important long-term institutional investors in the real estate sector.
- ▣ Solid public transit ridership, as illustrated by the success of the Société de transport de Montréal (STM) 747 Montréal-Trudeau airport shuttle and the 50,000 daily trips made on public transit over the Champlain Bridge — Canada's busiest.
- ▣ Quality of STM management, Québec's largest public transit corporation with revenue of more than \$1.3 billion and a quality of financial and operational management that is recognized by independent international organizations such as GFOA (Government Finance Officers Association), APTA (American Public Transportation Association) and international credit agencies such as Moody's (Aa2 rating).
- ▣ Presence on its territory of world leaders in rail transportation, such as Bombardier Transportation, and transportation electrification, such as Hydro Québec.

The recommendations of the experts we commissioned should convince us of the importance of using this new source of financing to move forward with major public transit projects that are essential to Québec's development.

## Vincent Joli-Coeur

Vice Chairman, Financial Markets  
National Bank of Canada

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# Executive Summary

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This paper discusses the potential of Land Value Capture (LVC) methods for Montréal and the Greater Montréal area. It focuses on the application of LVC methods around transit stations around the world. There is significant evidence to show that the improved connectivity supplied by new transit services generates increased land and development value. This is well recognized by the development industry. It therefore seems fair and equitable that a proportion of this additional wealth, generated by the new transit, should go to funding the transportation facility. The challenge is finding LVC methods that satisfy the needs of both the public and private sector and finding projects and locations where it will work. This paper explains how this can be done.

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The provision of a world class transit system for Montréal is critical to maintaining its success as a world city. Such systems not only maintain the economic competitiveness of the city but also help to create livable, sustainable communities. They also help reduce environmental damage through increasing the use of transit, walking and cycling thereby releasing capacity for essential users of the highway system. LVC methods can contribute important funding and financial sustainability to help provide improved transportation assets.

This paper describes a range of LVC methods, some development-based and some taxation-based, and gives examples of each from around the world. It goes on to state that LVC is a valuable tool for the Greater Montréal area that will help to deliver a world class transit system, thereby maintaining Montréal's global competitiveness and high quality of life.

If LVC methods are to be used in Montréal there are key actions that need to be delivered:

- ▶ Agree on objectives with key stakeholders
- ▶ Understand and capture value for all partners
- ▶ Develop governance and business models
- ▶ Protect the funds captured for the transit project
- ▶ Protect the independence of planning
- ▶ Protect confidentiality
- ▶ Select shovel ready pilot projects

There are also a number of challenges to be addressed:

- ▶ Acceptance of the principle of LVC and the benefits
- ▶ A willingness to act
- ▶ Proactively seek collaboration between public and private sector stakeholders
- ▶ Potential incremental changes to policy and strategy
- ▶ Potential changes to the legal framework
- ▶ Potential changes to appraisal methods

Finally this paper concludes by listing some potential next steps if it is decided to implement LVC methods in Montréal and successfully secure financial contributions to essential transit projects.

# Introduction

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This paper is an introduction to the concept of Land Value Capture (LVC). It explains what it is and the potential it brings to help fund public services. The paper focuses on LVC related to the increased value of land and development around transit stations and how some of this extra value can be captured to help fund transit and build a competitive and healthy city with a high quality of life for residents, businesses and visitors.

# What is LVC?

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Land Value Capture (LVC) is a way to capture the increase in the value of land and development generated by the improved accessibility of transportation. Improved access has value which is reflected in land and property values just like property which has waterfront views. The focus of this discussion paper is the added value generated around transit stations.

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## LVC is not new

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The concept of LVC is not new; in fact Canada was at the forefront of using LVC to fund its rail infrastructure. The Canadian Pacific Railway (CPR) was partly financed through giving development rights for a 48-mile wide corridor along the route to the promoters of the railway. It was the CPR that dictated both the shape and the location of cities in the new Canada based on capturing the increase in the value of the land around the railway stations to part fund the railway (Ref 1).

More locally, at the beginning of the 20<sup>th</sup> century, concurrently with the conception of the costly Mount Royal Tunnel, the Canadian Northern Railway (CNR) planned to develop the low-valued land north of Mount Royal to finance the project from the sale of residential properties. Once the tunnel connected the Town of Mount Royal to downtown, property values in the Town increased significantly. Thus was born the Town of Mount Royal, as a LVC solution to finance a rail link (Ref 2).

In London, England the underground Metropolitan Line used the same principle in 1863 capturing land value uplift around the stations to generate the profits to fund the next section of line. This same principle can be used today for the benefit of all city residents and businesses in the Greater Montréal area.



CNR tunnel under Mount Royal, Montréal, QC, 1918 (Ref 3).

## LVC can generate new wealth and profits

The Jubilee Line extension in London which opened in 1979 has been shown to have generated around £13 billion in total increased land and property value around the 10 stations between Stratford and Waterloo against a capital cost of £3.5 billion. Two reports have supported these figures. A report for Transport for London measured nearly £3 billion uplift around just two of the stations (Ref 4). It is estimated that about 10% of this total value was captured for the project, mainly from the Canary Wharf redevelopment.

A Nationwide survey in the UK in April 2012 showed that property prices within 500m of a railway station were 9% higher than similar properties away from the line. This figure was 7% in the 2010 survey (Ref 5).

A raft of surveys in North America show increases ranging from 0% to 120%. For example, a recent study in Montréal showed property increasing in value by 13% within 500m of a metro station, 10% within 1 km and 5% within 1.5 km (Ref 6).

Lastly, a study published in March 2013 in the USA by the National Association of Retailers and the Association of Public Transit Authorities found that on average, across the study area, development around transit stations outperformed the region as a whole by 42%. Transit also had an effect on the resilience of property values which benefitted from transit that was well connected and had a higher frequency of service. Also households living around transit stations had better access to jobs and lower average transportation costs than the region as a whole (Ref 7).

Crossrail is among the most significant infrastructure projects ever undertaken in the UK. From improving journey times across London, to easing congestion and offering better connections. It is also an example of how transit can increase the value of land and property around stations.

- Research undertaken by property consultants GVA shows that from 2008 to 2013, 41% of planning applications within a kilometer of a Crossrail station cited the new railway as a justification for the development proceeding, equating to around 53 million square feet of residential, commercial and retail space.
- Crossrail could help create £5.5 billion in added value to residential and commercial real estate along its route between 2012 and 2021, according to research for Crossrail by GVA.
- Commercial office values around Crossrail stations in central London will increase over the next decade, with an uplift of 10% in capital value above an already rising baseline projection.
- Residential capital values are projected to increase immediately around Crossrail stations in central London by 25%, and by 20% in the suburbs, again above a rising baseline projection. (Ref 8)



Canary Wharf Station – architects impression (Ref 8).

There are many more examples around the world showing that transit increases the value of land and property around stations and how a well-designed and executed LVC strategy can ensure a significant portion of that value uplift is made available for the transit investment.

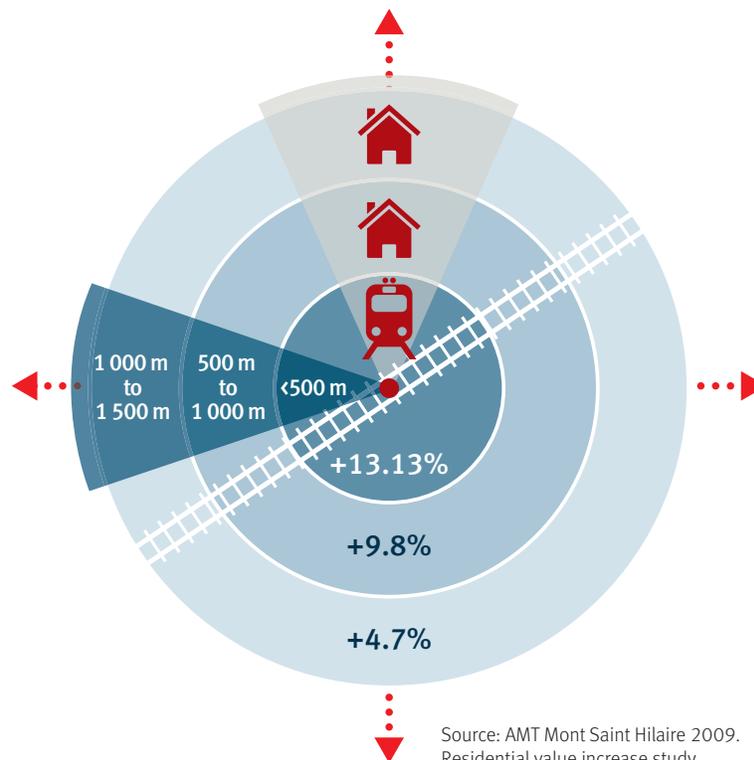
## When and where does LVC work?

When people perceive value they are willing to pay for it. For example, people will often pay a premium to buy a house in a good local school catchment area or for an apartment with a river view. In the same way, if a house has good access to where the residents and businesses want to go then that will attract a premium. This is known and accepted by the property market and development industry and there is a lot of data to back it up as evidenced by the examples above. It happens, it's additional and it's real money. In other words, the money is a reflection of the value created by the improved accessibility and the accessibility makes the land more productive; i.e. more valuable.

This uplift in value due to improved accessibility will vary depending on the local circumstances. For example, in the case of the Croydon LRT extension in south London the increase was negligible because the area already had good public transport links (Ref 9). In other cases, however, where congestion is high and the improved access is transformational, the uplift can be substantial. A safe assumption is to use an estimated 10% uplift in land and property value within 1 km of a station provided

it connects to where people want to go and the property market is growing. Research by Parsons Brinkerhoff suggests a range from 10% to 50% of capital value (Ref 10). This is new money, additional profit for the landowner or developer which only happens if the improved accessibility is provided. It makes sense therefore that this extra profit generated by transit should be shared between the agency providing the transit and the people who own the land to ensure the transit is built. It needs both players collaborating to make it work. This is especially relevant when demands for access are increasing and the supply of public money for infrastructure is under pressure. The majority of the increased value will come from within a 1 kilometer radius of the transportation facility. The potential, therefore, to unlock this extra value through a partnership between the public and private sectors needs to be explored. This means that LVC requires collaboration between the private sector development community and the public sector that is largely responsible for the provision of transport.

The graph below shows how the research carried out in Montréal proves the point.



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## If LVC is so good why is it not happening?

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Part of the problem is that the current system is unable to easily release and subsequently capture this added value. This is because of the regulations and procedures put in place to ensure the independence of the planning process and fairness and transparency in spending public money and secondly because of developer confidentiality. From the public sector point of view it is neither possible nor desirable to give planning permissions on the back of promises from developers to fund infrastructure. From a private sector point of view it is difficult for developers to cooperate with each other due to confidentiality and the competitive nature of the

development industry. The new methods of implementing LVC seek to unlock this new wealth creation and overcome these issues whilst retaining confidentiality and public integrity. The rewards are substantial and the equity of sharing the generated wealth compelling. However, it seems fair that the funders of a new transit line that creates this new wealth and extra profit, receive a percentage of that increase. Thus there is a strong argument for a more equitable sharing between those who create the wealth and those who gain.

Don Riley is a commercial property developer and owner based in London who made millions of £ from the building of the Jubilee Line Extension in south London. He owned a significant amount of property in a run-down part of Southwark that dramatically rose in value when the new underground line opened. The increase was due to the fact that Southwark was now connected to central London and the Financial City, Canary Wharf and Docklands and City Airport. He wrote a book called *“Taken for a Ride”* in which he set out the gains in land and rental value generated around all the new stations from the building of the line. He had monitored these values over time. Although glad of the windfall generated, he powerfully argues that at least part of this wealth creation should return to the people who created it – i.e. the providers of the Jubilee Line – ultimately the taxpayers (Ref 11).

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“Part of the problem is that the current system is unable to easily release and subsequently capture this added value. This is because of the regulations and procedures put in place to ensure the independence of the planning process and fairness and transparency in spending public money and secondly because of developer confidentiality.”

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# Why is LVC important and what are the benefits?

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## LVC is important to Montréal for the following reasons

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- It helps economic growth to be achieved in an environmentally sustainable way.
- It helps build a more competitive city region and a higher quality of life for its residents and businesses.
- It helps build sustainable, healthier communities.
- It helps reduce the cost of living.
- It helps reduce congestion and pollution.

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## The growth of the Montréal region

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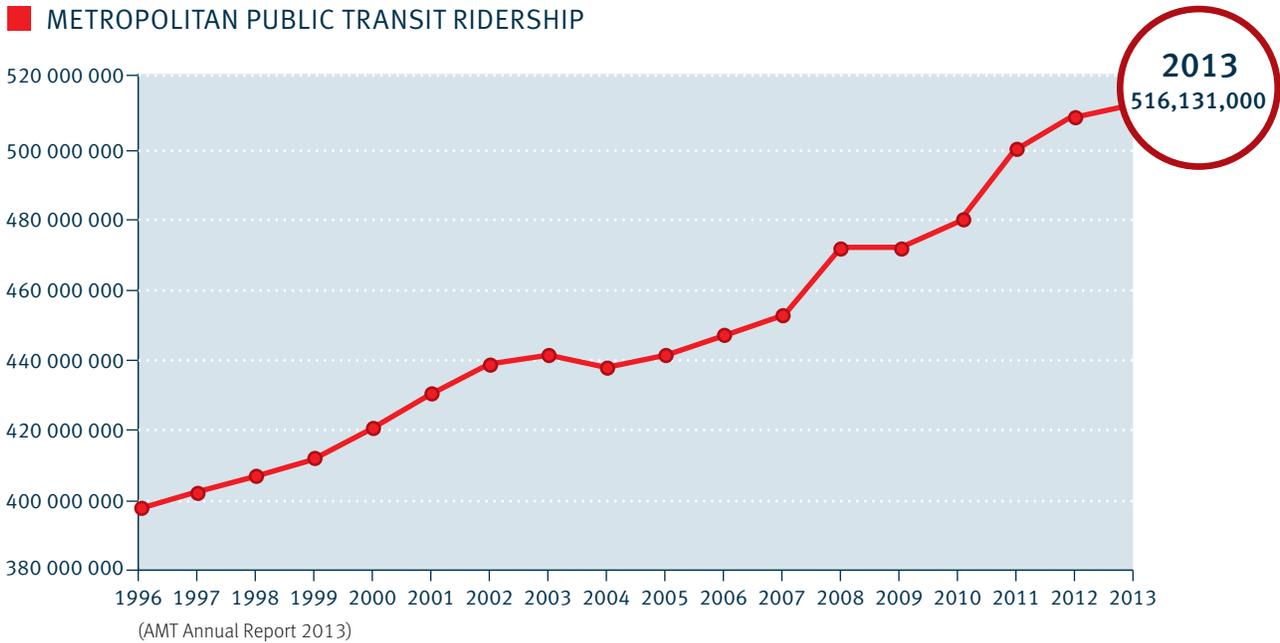
The population of the Greater Montréal area is projected to increase from 3.8 million in 2010 to 4.3 million in 2031, which is 750,000 more inhabitants than in 2006. The population is ageing and this trend will accelerate between now and 2031 when around 25% of the population will be 65 years and over. Greater population growth is happening in areas characterized by low residential density and high car use (Ref 12). The number of cars is growing more than twice as fast as the population; i.e. over 300,000 more cars between 1998 and 2008. This growth is causing growing congestion on the highway network and will damage the economic competitiveness of Montréal nationally and globally. For example, the Highway 10 corridor, one of the busiest in the region, is experiencing this pressure. Traffic on the Champlain Bridge increased by 88% in only 20 years, from 1978 to 1998. Today traffic is estimated at 49 million vehicles per year (Ref 13 and 14) which makes it Canada's busiest bridge. The result is that peak traffic periods are lasting longer and continuing to grow.

This is not a sustainable situation for any city and requires a high quality transit network to compliment the highway network. No city in the world has managed to solve its movement needs solely using the private car. This is simply a matter of arithmetic.

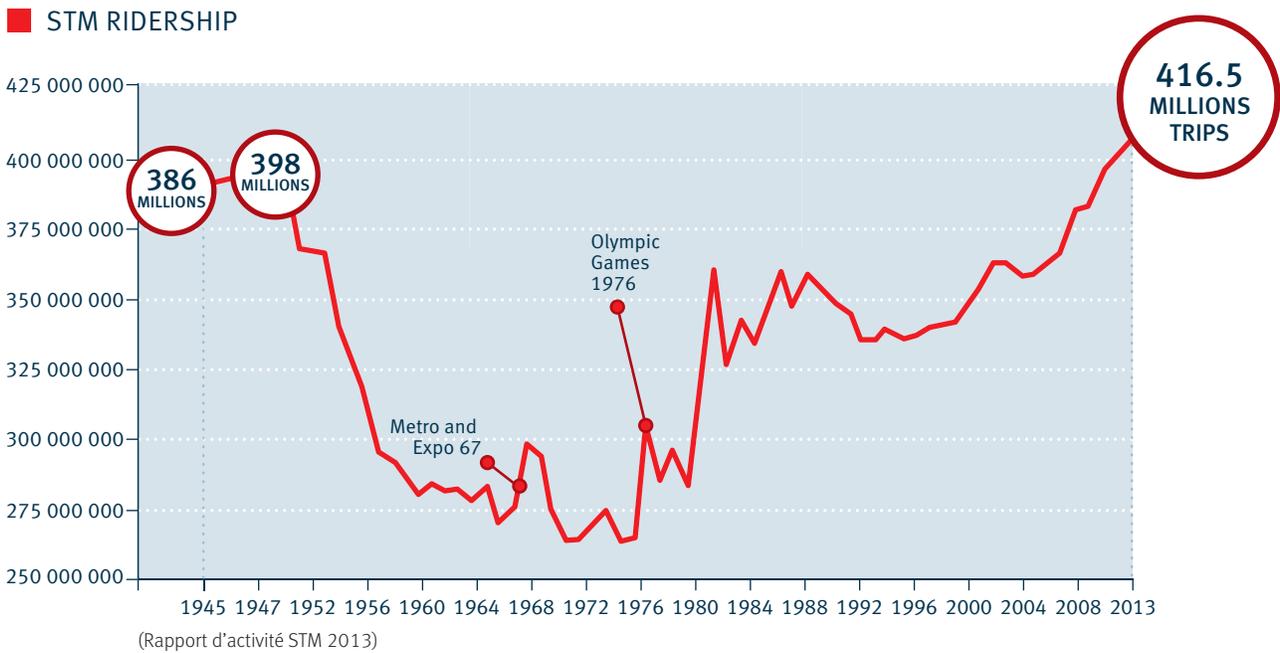
Typically private cars have an average occupancy of just over 1 person which means that there are more empty seats moving around the network than full seats. However, the space requirements for the number of cars required to move people are high and demands more and more movement space. This movement space can only come from people exchange space, the only other space in a city. This process leads to the competitiveness of the city being destroyed because the city is dominated by movement space and the very economic and social life blood of the city, exchange space, is reduced to a non-viable level. The city becomes less attractive, congestion rises, pollution rises, quality of life reduces and the city falls into a vicious cycle of decline. The only way to build a successful city is to find the balance between a world-class mass transit system, a world class walking and cycling network and a world class highway network. This will maximize the productivity of the city's movement space, maximize the amount of exchange space and lead to a vibrant, attractive and competitive city. Fortunately, Montréal currently has a vibrant, dense Downtown district with many new, major investments being built. It is lively and is working well. However, to preserve this advantage and to make it even more attractive, it will need a world class public transit system in order to maintain that quality and competitiveness as the population grows and pressures on the highway system increase.

It should be recognized that Montréal already has a world-class transit system that is well used with strong ridership numbers as shown below. This is a good foundation for the required future transit system.

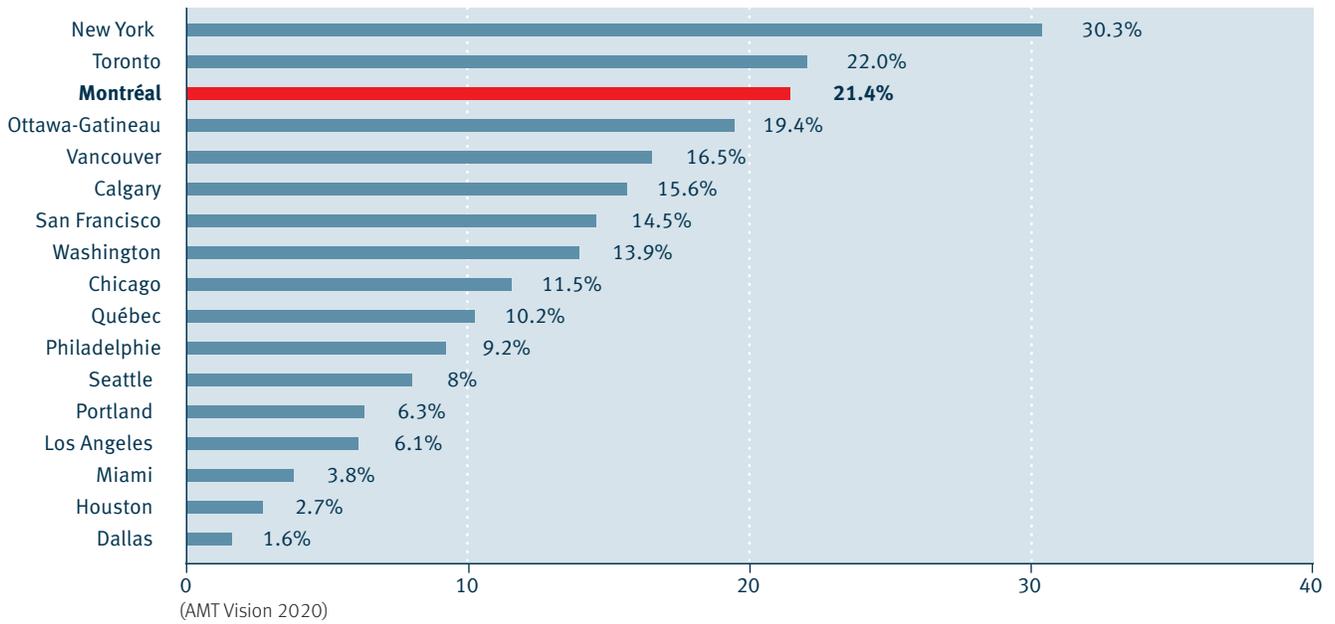
**METROPOLITAN PUBLIC TRANSIT RIDERSHIP**



**STM RIDERSHIP**



■ COMPARISON OF THE MODAL SHARE OF PUBLIC TRANSIT IN NORTH AMERICA – 24H



This was not always the case. The market share for public transit was declining but stabilized at 22% between 1998 and 2003, despite the fact that car ownership increased during this time by 10%. It is good to note that this positive trend is continuing with public transit trips increasing by 15% between 2003 and 2008. Car trips decreased for the first time during this same period by 1%. Public transit's mode share was 25% in 2008. This is one of the highest market shares in North America, third only to New York and Toronto.

Furthermore, Montréal's largest public transit authority, STM, is recognized as a world leader and recipient of many global awards such as the Excellence Prize of the Government Finance Officers Association (GFOA) and other awards such as from the American Public Transportation Association (APTA) in different categories. Furthermore, it benefits from a strong credit by independent credit rating agencies.

As part of the 7 stage process set out in the document Vision 2020 carried out by AMT (Ref 15) respondents were asked about the future in terms of transportation. 82% of respondents thought that traffic congestion was a major problem and 66% believed that public transit is the solution to that problem. They also believed that public transit needs to be less expensive than driving, faster and more relaxing. This is a good basis of public support. This survey of Greater Montréal residents took place between October 26 and December 3 in 2010.

Funding for public transit has increased significantly since 1996 because of the implementation of the first autonomous metropolitan fiscal framework to include dedicated public transit funding (gasoline tax, motor vehicle registration fees and 1 cent per \$100 of property value). Overall transit funding has increased from about \$1 billion in 1996 to \$1.6 billion in 2010. However, the growing costs of public transit and the growing needs of people and businesses for high quality transit means that current sources of funding are not enough. The capital budget required for the Vision 2020 public transit plan is of the order of approximately \$17 billion. Other sources, therefore, need to be found to supplement Government funding in order to deliver this program.

The Greater Toronto and Hamilton Area (GTHA) shares many of the same growth characteristics and pressures of Greater Montréal so it is interesting to note that the report from the Transit Investment Advisory Panel, chaired by Anne Golden, entitled “Making the Move: Choices and Consequences” recommended that *“Metrolinx adopt a proactive and collaborative approach in working with the private sector to take advantage of the increase in land value created by the Next Wave of rapid transit projects.”* (Recommendation 6, December 2013). This panel consisted of 13 senior individuals from all major stakeholder groups in the GTHA across the political spectrum. This type of panel relates to the proposed Forum mentioned later in this discussion document. The panel also recommended a dedicated, protected fund for all monies raised and that all projects should be validated through solid, thorough business case analysis. Both points are supported in this paper.

Aware of the desire of municipalities to seize on opportunities generated by terminals, metro stations and train stations, AMT is looking to build a public transit system that supports sustainable urban development. This includes Transit Oriented Development (TOD). This means that the policy framework is already there to support LVC methods strengthened by a declared lack of funds to deliver AMT’s vision 2020. Indeed their Vision 2020 document highlights mechanisms that capture property value.

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## LVC is easier to implement in partnership with world-class, reputable and credit-worthy property owners

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Successful LVC schemes are easier to implement when the public transit authorities can negotiate with world-class, reputable and credit-worthy property partners, which is one of Montréal's unique features. Ownership of some of Montréal's largest properties being in the hands of large institutional owners will certainly facilitate equitable negotiation between the public and private sector parties and help secure public acceptance.

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### LVC helps to build more competitive and higher quality cities

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The provision of sustainable, mixed use communities around transit stations brings a range of benefits over and above LVC funding. It is clear from the evidence that the uplift in the value of land and development around transit stations, due to the increased accessibility of a new transit line, can be substantial and is certainly worth trying to capture in order to help fund new transit lines. However, the provision of Transit Oriented Development (TOD) around transit stations also increases transit ridership, and therefore the fare income of the transit line, and increases the viability of local services; improving the quality of life and attractiveness of the area and helping to build community. This focused development also reduces congestion for private and public road users, including the movement of freight. There are, therefore, multiple benefits to pursuing a strategy of LVC application that go beyond funding for transit.

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### LVC helps to build sustainable, healthier communities

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In order to maximize the potential for LVC there needs to be a clear link with land use planning, urbanization, building communities and service locations. This means that there needs to be planning policy and regulatory support at the municipal level for TOD around transit stations and the promotion of intensification around transit stations that supports communities and the services they need. This also needs to be tied in to a continuous project evaluation process that recognizes the benefit of LVC and sustainable communities and integrates with, and further builds on, the current appraisal methods.

Research shows that certain lifestyle trends, which are global, strengthen the potential of TOD and consequently the impact of LVC funding. Research in the TOD and Land Use Newsletter in New Jersey (Ref 16) shows that there is a trend for young professionals in their late 20s to mid-30s to value the quality of urban life and want to live near transit stations which helps generate that increased quality of life. Baby Boomers who are downsizing are also choosing downtown accommodation and locations around transit stations.

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“There needs to be planning policy and regulatory support at the municipal level for TOD around transit stations and the promotion of intensification around transit stations that supports communities and the services they need.”

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- There are social changes going on as well in younger generations. Research shows that the percentage of young adults possessing an auto license is falling in North America, Europe and Australia. For example, the University of Michigan published data to show a 5% reduction in the percentage of 20-24 year olds having a license between 2004 and 2008 (Ref 17). These new generations did not grow up in an age where the car was king and the first thing any young person wanted to do was buy a cool car. They have been brought up in the information age and often do not see the need for a car in urban areas. It is more important to have the latest smart phone than a driving license. You can't social network driving a car! This will be particularly true of generation I – those born after 2002.
- For Generation Y, the millennials born between 1979 and 1995, use of transit has risen 40% according to a report from the Urban Land Institute (Ref 18).
- In terms of lifestyle changes the Federal Highway Administration showed that the demand for compact housing within 0.5 mile of a transit station is expected to rise to more than 14.8 m households by 2025 from 6.2 m in 2000 (Ref 19). There is also evidence that as fuel prices continue to rise houses with no connection to transit are more likely to suffer reductions in value than those downtown or adjacent to a transit station. This was clearly seen in US cities during the last fuel crisis. Therefore, as congestion rises, the cost of fuel rises and the importance of reliable sustainable mobility and quality of life increases, the relevance and importance of TOD and LVC opportunities will also increase (Ref 20).

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“There also needs to be an examination of how LVC could support the provision of transit to existing and proposed suburban commercial centers – linking these centers to residential areas, the downtown, and other key centers such as employment or destination sites. It is more difficult to capture value uplift from existing development but one way this can be done is through reducing car parking and allowing intensification of the land use.”

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## Other benefits

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TOD around transit stations offers other benefits as well. There is a lot of research on comparative TOD cost of living versus car-oriented suburban living. This shows reductions in the cost of living for the TOD developments. This disparity can only increase in the future as the price of oil rises and congestion increases. Griffith University in Brisbane has developed oil dependency factors associated with car-oriented living showing the vulnerability of such housing to market prices (Ref 21).

TOD living also increases health levels as it encourages more walking and cycling. The density of residential units improves the viability of local shops and services which increases the vibrancy and commercial sustainability of the local area. A virtuous circle.

TOD development reduces the amount of kilometers travelled because of improved access to local services and other longer distance services by transit. This increases walking and cycling to local shops, offices and other services and increases the efficiency of the infrastructure, both road and rail. Thus the cost of travel reduces and productivity increases. This is key to a successful, competitive city in the future and encourages the growth of a knowledge economy both within TOD areas and on transit.

# The Definition of LVC

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There is a need for a clear definition of LVC in the context of this paper because it comes in many forms. It is self-evident from the name that LVC relates to capturing, in some way, an increase in land value but this raises some questions. Is the increase in value being measured due to a range of factors or only to increased accessibility generated by an improvement in the mobility services provided? If LVC is defined as value generated by improved mobility then the definition is more clearly focused. However, it could be argued that value generated from the granting of planning permissions, or from granting intensification of development around a transit facility is valid, and this widens the definition. Even if the definition is restricted to mobility effects, does this apply to all mobility or just to transit? It is important to define what we mean.

This discussion paper defines the application of LVC with respect to the increase in the value of land and property around transit stations caused by the transit service. Thus, the paper focuses on LVC funding for transit, a major need in Montréal. Such an LVC definition does not mean that other forms of wealth generation cannot act in partnership with LVC uplift from transit. Indeed uplift from the granting of planning permission and land use intensification can provide additional funding and mutual benefits.

Given this definition there are two general areas of LVC methods; one area is development-based and the second is taxation-based.

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## Development-based methods

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The most important attributes of development-based methods are that:

- ▶ They have the likely potential to raise significantly more money than any current examples of taxation-based solutions
- ▶ They directly link LVC funding contributions to the project generating the increased profits. This direct link is attractive to developers.
- ▶ LVC contributions need to be agreed as early as possible. The largest gains are to be made in the initial stages of the development process before options are taken and site ownership transferred. Any agreed contributions at this stage can be accounted for in the development process that follows. As time goes by, and certainty increases, value is taken out as developers anticipate increases in land value around the new transit. Hence, LVC is best secured before the line and station locations are fixed.
- ▶ There needs to be a perceived shortfall in public funding for a specific project that is recognized by the private sector. If landowners and developers think that the new transit facility will be 100% funded by the public sector they will be reluctant to contribute to the funding through LVC gains. If they believe, however, that the public sector cannot or will not wholly fund it and the only way to secure the increased profits is to jointly fund it with the public sector, then they will participate.
- ▶ Development-based methods are market driven and can be seen to have more positive benefits than taxation-based solutions. The private sector dislikes any form of taxation. These methods offer an alignment of interest for all stakeholders. For the city and provincial authorities it offers a new source of funding additional to public sector funding, bringing more flexibility. It also shows the local authorities to be financially responsible because they are then seen to be looking for alternate funding sources not reliant on increased taxation.

Development-based methods fall into two categories – those where the transit provider is directly involved in the development and those where the transit provider works in partnership with the development industry but is not involved in the development delivery.

Examples of the first category are the methods used by the Mass Transit Railway Corporation (MTR) in Hong Kong, the Japan Railway Construction Public Corporation (JRCA) and the Oerstadt project in Copenhagen. All of these examples are detailed later. If the Montréal or Québec authorities actively participate in development-based methods, they gain more direct control and potentially greater reward. However, it requires development experience and expertise, as the commercial risks can be significant. These risks can be mitigated by hiring the right staff or procuring the right expertise. However, in the Oerstadt project in Copenhagen, where all the land was publically owned, the market changed, the transit cost was much higher than initially thought, and the projected development took much longer than expected. Transit authorities are not traditionally set up for taking on the developer role and there are issues with respect to risk and the public purse. Land banking is potentially attractive but also carries a considerable risk reward profile that can sit uneasily in the public sector. Indeed there are those who argue that active participation in the development industry is not part of the public sector's role. This is different if the transit authority owns land around the transit line. If this is the case

then the authority can be in a strong position to lever in appropriate development and joint development partnerships. As stated above these risks need to be carefully evaluated and, if necessary, mitigated to minimize exposure for public sector authorities.

The second sub-category of development-based methods relies on a voluntary partnership with the private sector where each partner understands the business of the other and agrees to share the mutual benefit. This mutual benefit comes from the fact that the public authorities provide the transit that generates uplift in value due to the improved connectivity and the landowner/developer owns the land and development rights. Each party needs the other. A voluntary partnership is then formed where the new value generated by the transit is equitably distributed between the developer/landowner and the transit provider to help build the transit that will generate the value. Agreements on the appropriate form of contribution from the private sector are negotiated on a site-specific basis and will vary depending on the unique characteristics of both the site and the transit facility linkages. The advantage of voluntary development-based LVC methods is that they do not require any new legislation and work with the development industry. However, they only work where the private sector is convinced the transit facility cannot be funded wholly by the public purse. This needs to be emphasized and shapes the projects chosen for LVC application.

### Summary of the key attributes of development-based methods:

- They have the potential to raise significantly more LVC funding than other methods.
- They directly link those who benefit with those who contribute.
- They are best applied to new, fixed transit infrastructure.
- The funding potential is greater the earlier the methods are applied.
- The majority of LVC value is generated within a 1 kilometer circle of a transit station.
- There needs to be a perceived shortfall in public funding recognized by developers.
- Voluntary development-based methods require no new legislation; they can be applied now.
- They are market driven and are based on sharing the extra value generated through the new transit provision.

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## Taxation-based methods

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The other main category of LVC applications involves taxation-based methods. These try to capture the increase in value due to improved accessibility through various forms of taxes or levies on the completed developments. They can be applied to existing developments although this is more difficult. This category can take the form of Special Assessment Districts, Development Charges, Tax Increment Financing, Land Value Taxes, Impact Fees and other forms of roof tax/levies. All these methods are set out in detail in the report by Trillium Business Strategies Inc. on “*Land value capture as a tool to finance public transit projects in Canada*” published in March 2009 (Ref 23). The methods usually require legislation, unless they take the form of a voluntary levy, such as within a Local Improvement District (LID) area where the residents and businesses have voted to pay a levy. They can be unpopular with the private sector and have been seen to result in suppressing or diverting development away from the taxation area. They can also be a blunt instrument trying to extract value where there is none, or missing large increases in value because they operate on fixed schedules of rates. They can act as a disincentive for development or favor development in more profitable areas of a town or city to the disadvantage of poorer areas. For example, there is evidence that when taxation districts are defined around transit stations to capture increased value, the developers either delay their plans, divert their efforts to other areas where it does not apply, or develop just outside the taxation boundary. This was seen in Dublin with respect to the LUAS rapid transit system and around the Sheppard Subway line in Toronto. Nevertheless, they can be used effectively and have been applied successfully around the world. Examples are given at the end of this paper. Taxation-based systems are blunt instruments that don’t have a direct link with those who directly gain. This means that it is more difficult to demonstrate the value chain between those who pay and those who gain. This can make it more difficult to deliver taxation-based methods.

The UK government has tried in the past to introduce a land and development tax, but to date, has been unsuccessful. Currently, UK local authorities are trying to introduce the Community Infrastructure Levy (CIL) and there are two schools of thought on the proposal. The first argues that development charges have failed four times since 1947, are wrong in principle and impose a drag on economic growth. The second accepts that a clear straightforward development charge could be a real benefit but changes need to be made to the current structure (Ref 24).

### Summary of the key attributes of taxation-based LVC methods:

- ▶ They usually require new legislation.
- ▶ Taxation is a blunt instrument and can break the link between those who pay and those who benefit.
- ▶ The private sector dislikes taxation and sees less disbenefit in development-based methods.
- ▶ They can suppress, delay or divert development within the taxation areas.
- ▶ They can disadvantage poorer areas with lower property values.
- ▶ Fixed taxation schedules can miss out on developments with very significant gains and apply unreasonable demands to marginal developments.
- ▶ They are useful as a method of generating LVC for existing developments or for new developments around existing or funded transit systems.
- ▶ They have been used successfully to generate funding for transit systems.

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## A combination of methods

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Of course, it is possible to combine methods and, in fact, this is often desirable. For example, it would be perfectly possible and proper to implement an LVC system based on the voluntary contributions of developers and implement a levy/impact fee/development charge as well. A key principle, however, is that LVC funding from increased value generated by transit can only be captured once. It must be made clear that any other charge, levy or tax is related to other benefits or to fund such things as local roads, local services, parks, etc. London Crossrail is an excellent example – there are direct voluntary payments to the project and there are area-based charges, or taxes (i.e., Community Infrastructure Levy), which are also contributing to the project. The business community has largely been supportive of these area-based taxes because the line will help London as a centre of business.

There are also other methods that have been used successfully that can fall into either category. For example, the selling of density rights used in some South American countries, the selling of air rights above stations, or sale and leaseback arrangements. There are many variations of LVC that can be explored once it has been decided in principle to use LVC methods.

It may be of interest in a Canadian context to note that the Metrolinx Investment Strategy recommends a combination of methods in the form of asset maximization through a development-based approach paired with the use of Development Charges in local municipalities.

# What needs to happen in the Montréal area to deliver LVC?

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## If LVC methods are to be used in Montréal there are key actions that need to be delivered:

- Agree on objectives between key stakeholders
- Understand and capture value for all partners
- Develop new governance and business models
- Protect the funds captured
- Protect the independence of planning
- Protect confidentiality

These are explained in greater detail below.

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## Agree on objectives between key stakeholders

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There is usually a tension between different sets of objectives. For example, there may be a conflict between maximizing LVC and the optimum number of transit stations to maximize operational efficiency, or between municipal educational, social or environmental objectives, and maximizing TOD around transit stations. This is why an effective collaboration between all the key public sector players is essential, delivering an agreed set of objectives and priorities for any LVC project. The collaboration can take many forms – voluntary, Special Purpose Vehicle, or statutory. The form of the partnership would be the subject of further discussions and analysis with the key partners.

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## Understand and capture value for all partners

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In order to capture uplift in value in land and development due to new transit, the partners need to be clear where the value is, how much it is, and who benefits. There also needs to be an understanding of the value for each key partner and how to capture it – i.e. for regional government, municipal government, private sector companies, and last but not least the individual consumer. A lack of collaboration results in reduced wealth creation. Municipal participation in LVC can help unlock and leverage revenue at the local level to help advance transportation priorities and can set a precedent for use of new mechanisms by local governments to make financial contributions to transportation projects.

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## Develop new governance and business models

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Achieving agreed objectives, identifying the value, and distributing that value in a fair and equitable way demands effective governance and business models – this is always a key issue. New governance and business models need to be developed to achieve LVC delivery and this will require the participation of a number of partners. This includes the public transportation agencies, the relevant departments at City, Region, and Provincial level and within each municipality and with the various private sector companies and agencies.

There needs to be two levels of engagement. Firstly at the strategic level where general agreement to implement these LVC policies are agreed, and secondly at the delivery level where the value is captured. Repeating and reinforcing of LVC as a strategic action is very helpful but the key is the second step – delivery.

The main attribute for developers is that the money they have paid through the LVC process is secured for the purpose for which it was given. They are often willing to collaborate to achieve mutually agreed objectives but are less keen on getting involved with the complexities of public sector governance. Demonstrated successes can help build confidence that the complexity is manageable and worth working through.

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## Protect the funds captured

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Another of the key issues with respect to any LVC project is the protection of funds raised for specific transport projects. Development-based methods have an advantage here in that any LVC funding can usually be linked directly to the project generating the increased funding. It is straightforward to show through, for example, a protected Trust Fund, that all monies raised for the project will be used for the project.

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## Protect the independence of planning

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It is very important that the independence of planning is maintained at all times. For that reason, details of any voluntary contributions should be kept confidential so that no undue pressure is brought to bear on any individual planning officer. However, it is perfectly in order for municipalities to know that LVC is involved in the project and to discuss in general the level of development and intensification around transit stations. It is also possible for the Trustees of the Fund to verify the level of LVC agreements attached to the fund and the probability of them coming to pass with respect to gaining planning permissions. One of the roles of the Trustees is to monitor whether sufficient LVC payments have been received and whether the conditions have been met, as the details of LVC agreements can vary. However, care must be taken to avoid undue influence on the planning process from the potential of large LVC payments.

One of the key features of the Greater Montréal area is the quality of its land use planning, through the Communauté métropolitaine de Montréal (“CMM”) Metropolitan Land Use and Development Plan (“PMAD”). CMM has the jurisdiction in the field of land use planning, and held public consultations in each of the CMM’s five geographic areas, i.e. the Montréal agglomeration, the Longueuil agglomeration, the City of Laval, the North Shore and the South Shore.

The PMAD’s objectives are clear:

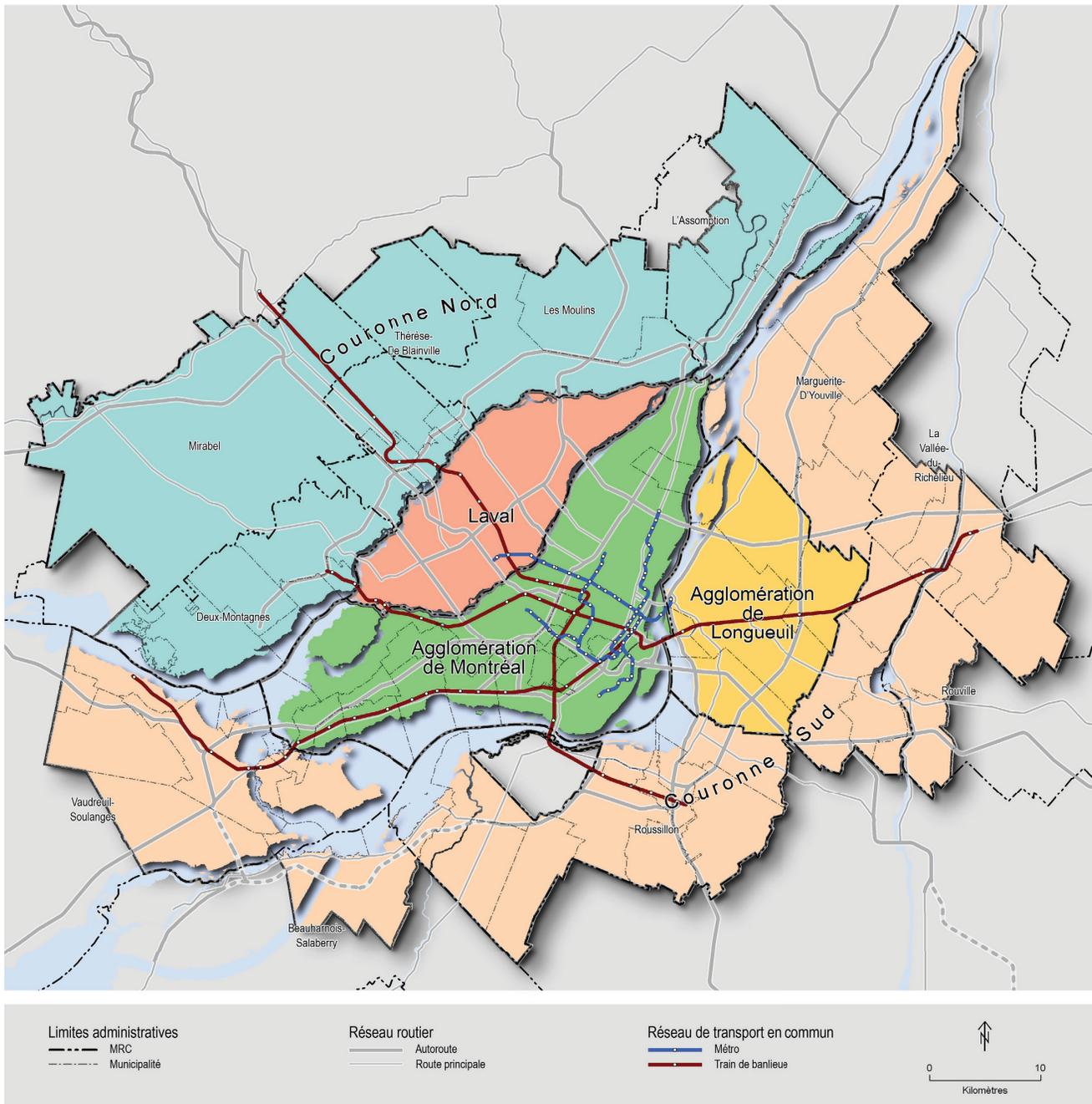
➤ **In terms of land use**, the PMAD establishes a policy directive for Greater Montréal to have and create a sustainable living environment. To do this, the PMAD recommends locating at least 40% of planned urbanization within a one-kilometre radius around metro, commuter train, light-rail transit (LRT) and bus-rapid transit (BRT) stations, both existing and projected, with a view to developing TOD neighborhoods. It also advocates the densification of the built environment on land that is vacant or slated for redevelopment outside such TOD zones.

Other objectives deal with establishing a metropolitan boundary, identifying the locations of existing and planned metropolitan facilities, optimizing the occupancy of farmland, and taking into account the area’s geomorphological and anthropogenic constraints.

➤ **In terms of transportation**, the PMAD establishes a policy direction for Greater Montréal to have efficient, structural transportation networks and facilities. To do this, the PMAD advocates developing the metropolitan mass-transit network so as to increase the modal share of public transit from the current figure of 25% to 30% during the morning rush hour by 2021, and to 35% by 2031. The expansion of this network, which requires an investment of at least \$23 billion, is essential to increasing sustainable mobility and reducing greenhouse gases, a large proportion of which are emitted by road vehicles.

The PMAD also suggests that certain stretches of the road network be completed in order to provide service to the main metropolitan employment hubs, as well as the mobility of goods. It also suggests defining a metropolitan arterial road network as well as a metropolitan bicycle network to help increase active transportation (Ref 22).

We believe that the CMM's well-articulated objectives such as the location of TOD zones will guarantee the independence of planning, facilitate implementation of LVC as private sector participants know what the rules are and will adjust accordingly.



PMAD

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## Protect confidentiality

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This is more of an issue for development-based methods where discussions take place with separate land owners and developers. There is always a tension between public scrutiny and freedom of information and respecting the confidentiality of development proposals. It is not so much an issue with taxation-based methods. In terms of gaining the support of the private sector for any LVC project it is helpful to have that support at two levels; firstly to have the general support of the development industry for LVC methods being applied and even for advice as to where they should be applied, and secondly to have the support of specific developers for specific projects. The form of the general support would be the subject of discussions with the private sector. The detailed discussions about individual projects would have to be confidential to the specific partners. This is not new to the public sector as they deal with confidential reports all the time but the framework for this and the rules of engagement for both levels need to be clearly understood.

### New York City: Grand Central Station

\$210 million upgrade for Grand Central's subway project. The private sector developer, SL Green Realty Corp, proposed a 65-storey tower adjacent to Grand Central and recently unveiled more than \$200 million in renovations to ease the flow of people through the busy transit hub. SLG Green Realty Corp. said it would make the upgrades to Grand Central in exchange for the city approval to build a 1.6 million square-foot office on the blocks.

The risk allocation process between the public and private sector is clear as per the private sector developer's representative comment:

*"We are responsible for cost overruns, we're responsible for construction oversight."*

– SL Green Managing Director, Robert Schiffer said

In a statement, Deputy Mayor Alicia Glen described the administration's position on the plans.

*"We believe smart planning isn't just about buildings, but about the infrastructure investments and services we need to support growth,"* she said.

*"Our vision for east midtown puts transit first, and the changes coming to the Vanderbilt corridor exemplify that approach. Before the first office worker walks through the doors of this new building, we will have in place improvements to subway platforms, concourses and entrances that will increase capacity at Grand Central and make life easier for thousands of commuters. This is the kind of smart growth we intend to pursue across the city."* (Ref 25)



Rendering of One Vanderbilt to the left and Grand Central to the right, source: Kohn Pedersen Fox Associates.

# What are the challenges to the implementation of LVC?

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## The implementation of LVC methods in Montréal will require the following challenges to be addressed:

- Acceptance of the principle of LVC and the benefits
- A willingness to change and to act
- Collaboration between public and private sector stakeholders
- Potential changes to policy and strategy
- Potential changes to the legal framework
- Potential changes to appraisal methods

These challenges are explained in greater detail below.

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## Acceptance of the principle of LVC and the benefits

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There needs to be an acceptance in principle from all the key players that LVC is a valuable tool that can contribute to the future funding of transit infrastructure and the long-term success of that infrastructure. There also needs to be an acceptance that LVC is not the panacea for all transport needs. It is important and can add substantial funding to a project, but it will not work everywhere. There are situations where there is no uplift, the uplift to be reasonably captured is minimal, or the uplift is difficult to be captured; so there needs to be an understanding of where it can be applied most effectively. This does not mean that the project should not go ahead if it cannot generate LVC funding, simply that LVC methods are not applicable in these cases.

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## A willingness to change and to act

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The application of LVC methods often requires changing some traditional views and a willingness to work across non-traditional boundaries with partners who may have different values and objectives. However, the potential rewards for Greater Montréal and its people and businesses should make this attractive and acceptable. The willingness to change needs to be accompanied by a willingness to act. This requires delivery models to be developed in collaboration with the key stakeholders.

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## Collaboration between public and private sector stakeholders

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Any successful LVC method needs collaboration and the public authorities will need to develop strong working relationships with the private sector. This needs to work at two levels – strategic forums and working arrangements related to specific projects and sites. This will require time and effort but will pay dividends in the future. There has to be recognition of each other's needs and an understanding of possibly different values and objectives. There needs to be an acceptance by both the public and private sectors that they need to work together to deliver effective LVC projects for the benefit of the citizens and businesses in the Montréal region.

The public sector has to work with the market and understand its strengths and limitations. There also needs to be a willingness by municipal planning authorities to allow and support, and preferably maximize, development around transit stations. The creation of critical mass around transit stations to ensure vibrant mixed-use centers is vital. This drives the whole process and delivers the benefits in terms of sustainable, high quality living and LVC funding.

The private sector has to understand the legislative, procurement and public good elements of government. In other words there needs to be collaboration between the key stakeholders to drive the creation of value and the subsequent appropriate capture of some benefit for all.

The success of this collaboration will depend on three things:

- ▶ Building mutual trust and understanding.
- ▶ Agreement on shared objectives and benefits.
- ▶ Agreement on the delivery mechanism. The principle of LVC is usually acceptable to the private sector. The key issue is finding a delivery method that brings certainty, competitive equality and fairness. In other words there needs to be a method that captures and shares the extra profit in an equitable way and still maintains the independence of the planning system, adheres to the rules and regulations of the public sector and maintains competitive equality and the confidentiality of private sector partners. Competitive fairness is important so the method should be applied uniformly. This does not mean that the uplift will be valued and captured the same way everywhere but the principles and method of delivering LVC will be relatively consistent. However, since every site is unique and every development opportunity is unique, 100% consistency is very difficult to prove.

Support from senior levels of government is very helpful. For example, Federal or Provincial Government could require an LVC input wherever possible for all project submissions and/or agreements or approvals. It could also be stated that public funding for transit is tied to municipal support in terms of progressive TOD planning policies.

There will need to be new business models developed to deliver the LVC methods chosen. The form of these models will depend on the LVC method and the views and objectives of the partners. These models need to recognize the need for confidentiality whilst retaining the independence of the land-use planning process.

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## Potential changes to policy and strategy

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A good example of the impact on policy and strategy is in Toronto. LVC is implicated in the Metrolinx Investment Strategy (IS), brought forward on 27 May 2013, as a potentially significant transportation investment tool. The IS estimate of LVC generating an incremental, dedicated revenue stream using their own existing process is very conservative, however much more could be achieved if LVC was pursued aggressively by government and government partners in collaboration with the private sector.

Planning for LVC is an excellent test that will confirm if there is acknowledged value from transit by property developers – and therefore it is a good test of risk as to whether or not additional development attributed to the additional transit provision is in fact generating intensification of demand and therefore increased LVC.

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## Potential changes to the legal framework

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The application of LVC methods will raise legal questions, however, there is no reason under Canadian law that LVC cannot be used. The detailed procedures to deliver LVC will, however, need to be adapted.

LVC is potentially a policy and asset maximization tool. Local authorities may hold significant assets and could examine how these assets could be maximized for the benefit of the Montréal region. The focus of this work would be on how to realize intensification and additional revenues from publically owned property and on lands adjacent to publically owned transportation corridors and station assets. Part of this examination could eventually include a review of current development and real estate policies to ensure that they are not restrictive with respect to the application of LVC methods. Indeed, they should positively help the introduction of such methods.

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## Potential changes to appraisal methods

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Access has been traditionally measured in counting minutes/seconds saved by travelers – both car and transit – and the associated benefits that can be attributed to the reduction in travel time as a result of implementing a transit project. Transportation agencies use this method in their Benefits Cost Analysis (BCA), and other planning and investment analysis. The application of LVC methods will require these appraisal methods to be augmented with LVC analysis. For example, LVC will take a more traditional real estate analysis and financial metrics/returns approach versus looking at appraisal that focuses primarily on time saving from transportation. A BCA does a good job at present in assessing transportation projects, however, factoring in LVC could result in double counting or show the undervaluing of some transit schemes that generate substantial LVC value. Traditional transit appraisal methods often do not account for land value uplift (and potential capture scenarios) because land use and the associated implication of how changing or tying land use can affect how one should evaluate such transit investments. Regional growth projections often guide planners to analyze an investment within a prescribed growth projection for an urban region. However, if one can show how increasing density on transit station land or the surrounding area can affect ridership and financial returns, because of the associated change in land use policy, this will influence the decision to make or not to make a transit investment (and how much effort is required to ensure intensification will occur). The only way to account for this is to show how real estate is directly tied into transit investment decisions. The advantage of LVC appraisal is that it is clearly seen to generate “real money” which can be used to provide better access and hence improved competitiveness, which in turn should support the financial performance of the transit and generate further benefits that can be accounted for in a variety of appraisal methods already in use.

# The Next Steps

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This discussion paper has explained what LVC is and has set out the potential benefits that it can bring to the Greater Montréal. It also highlights the challenges and areas for action if LVC methods are to be used to help deliver high quality transit for people and businesses across the region. If the public authorities decide to pursue LVC methods then an Implementation Plan needs to be developed. The Plan would comprise two parts – short-term actions and longer-term actions. The public authorities need to clarify responsibilities within the existing staff structure and teams in order to deliver these short and long-term actions. Suggested short and long-term actions are detailed below.

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## Short-term actions

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### **ACTION 1** The public authorities should publicly commit to the implementation of LVC in the Greater Montréal

There is no doubt from the evidence around the world that there is substantial additional wealth created around transit stations, by increased accessibility, if the market conditions are right and the transit is in the right place and going to the right destinations. In addition, the principle of LVC is generally accepted by the private sector. There is therefore a sound case for Montréal to pursue the application of LVC methods where appropriate.

There should be an early statement from the public authorities stating that they want to include LVC methods within their financial toolbox. A strong statement endorsing this and expressing a willingness to work in collaboration with the private sector would be welcome and arguably essential.

### **ACTION 2** The public authorities should establish collaboration between public and private sector agencies

The public authorities should establish relationships with the key players in the public and private sectors to gain support for LVC in the Montréal region at both the strategic and local levels. At the strategic level this

could involve a public/private sector forum. Discussions would need to take place with respect to who the representatives are on the forum. The key benefits are that general support for the principle is gained from the public and private sectors and the support base is laid for collaboration at the individual project level. The local collaboration, at the individual project level involving the relevant public and private sector stakeholders, is essential. This collaboration could also benefit transportation planning as the public sector agencies will get direct input from developers as to what transit schemes they think add value and would generate LVC. This could include Project Development Committees, as used in some London projects like Canary Wharf, Battersea power Station and the Northern Line Extension.

To enable the collaboration process to start the public authorities should consider inviting key stakeholders to a round table event to discuss the form and delivery of a public/private forum.

### **ACTION 3** Implement shovel ready pilot projects

The best way to demonstrate the potential of LVC is to do it. The implementation of LVC should therefore start with shovel ready pilot projects. These

demonstration projects should include data collection, performance monitoring and evaluations of the benefits of LVC so that a database of local experience is built up for future business cases. Site plans, drawings and other information for these site projects would be collected. In the longer term the public authorities will have to develop a site selection methodology, in collaboration with the private sector, so that a pipeline and timetabling of appropriate projects are identified. To be clear, in some cases, the public authorities may select the sites to be brought forward. However to maximize the realization of value from potential opportunities, the private sector should be bringing forward ideas too. In fact, some of the opportunities will be more effectively advanced if they are private sector led.

In the short-term the public authorities should use the collaborative forum proposed under Action 2 to identify one or two shovel ready pilot projects. For these projects the LVC method used would have to be a development-based voluntary method because they need no new legislation, they work with the market and they can be delivered quickly. Based on our preliminary work, it appears that the contemplated LRT in the Highway 10 corridor (from Brossard, then on the new bridge which will replace the Champlain Bridge and with a terminal station in downtown Montréal) would be a prime candidate. The other candidate would be the airport LRT linking downtown Montréal to the Montréal-Trudeau international airport, and continuing to link the West Island up to Pointe-Claire.

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## Longer-term actions

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### **ACTION 4** Implement a structure and processes to deliver LVC methods in the longer-term

The public authorities, in partnership with other key stakeholders, will ultimately need to build and formalize a long-term delivery team, defining their roles and structure with a clear mandate and responsibilities for developing LVC methods and TODs around transit stations. Members of the delivery team need to have a range of skills including the relevant experience and qualifications in real estate deal making and development delivery. An ownership/participation structure needs to be developed on a deal-by-deal basis along with an operations/asset plan and potentially some form of Investment Committee/Group. It should be noted that staffing costs for these systems will be small relative to the value of pursuing a successful LVC program.

### **ACTION 5** Develop and establish guidelines and a site selection criteria framework

The public authorities should establish development principles that will act as guidelines for all TOD and economic hub development.

This will involve conducting due diligence, market research, demographic analysis and working with the development and private sector to build market

intelligence. Since one of the benefits of using LVC is to monetize the value, a significant emphasis has to be placed on the financial returns and analysis.

This process will need to include specific development principles and guidance at the project level. This action will be done in partnership with the forums proposed under Action 2.

It is important to be clear that the selection methodology doesn't mean that a private sector collaborator cannot bring forward a site that makes sense for LVC; rather, the private sector should be encouraged to do so. It should be for the public authorities to create a clear, transparent set of criteria that is seen to be equitable and accessible and can be used to assess and initially consider LVC opportunities.

The public authorities should establish a site selection methodology that includes parameters like a shortfall in funding, the value opportunity of creating improved access to key locations, potential for TOD around the stations, a supportive planning regime, and attractiveness to the market with respect to development, and a willingness from all the key stakeholders to support the project.

The public authorities should develop an inventory of where significant development opportunities exist adjacent to existing or potential future transit.

The public authorities will need market expertise and/or feedback to help narrow the sites to be pursued and will need to engage the community and the development sector. When the above actions are implemented it will then be possible to develop a pipeline and timetable for LVC projects where there is a) value to be pursued, and b) willing partners with which to create that value.

#### **ACTION 6** Develop a working framework with the key public and private sector agencies

The public authorities should establish a working framework with municipalities and/or cities and their respective planning departments to ensure lands surrounding transit stations can be re-designated for high density mixed-use and/or re-designate those transit station areas or corridors as urban growth centers where possible.

They should also establish a working framework with the development sector to ensure the maximum benefit from LVC for transit funding whilst ensuring a fair and equitable return for the private sector.

Both of these actions will use the partnerships and collaboration established through the forums proposed in Action 2. The public authorities should also leverage off multi-stakeholder engagement/conference mechanisms to engage the market and community.

#### **ACTION 7** Establish governance and business models to deliver LVC projects

This is an inevitable consequence of deciding to implement LVC and will take time and require discussions with the key partners. There are case studies from around the world which will help, but they will need to be adapted to the Montréal situation. This action needs to be in collaboration with key public and private sector stakeholders.

Building on the momentum of the initial demonstration projects, it will become necessary to formalize and optimize the enterprise operation(s) of creating and leveraging LVC.

#### **ACTION 8** Establish a pipeline and timetable for the long-term delivery of LVC projects in the Greater Montréal

The actions proposed enable this to be delivered. Each project will be different and may involve the application of different LVC methods. This will emerge from the detailed project by project analysis. In developing a sophisticated, accountable, and transparent LVC delivery and evaluation program that respects commercial confidentiality, the public authorities will continue to build the trust required to succeed as a successful partner with both private and public sector partners. It should be made clear that this pipeline and timetable possesses a flexibility that will allow it to assess and, if appropriate include, new ideas and proposals from public and private sector partners.

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# Appendix – Examples of LVC methods

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## Examples of Development-based LVC methods

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### Hong Kong Mass Transit Railway Corporation (MTR)

The MTR is a government-led public leasehold system. It allows the MTR exclusive rights on long-term 50-70 year government-controlled land leases and associated development rights above and adjacent to the stations. The MTR divides the large government leased parcels into smaller parcels that are offered to private sector developers within a competitive bidding process. The prices reflect the increased value due to the transit station. Hong Kong is one of the few places in the world where a transit agency makes a profit. The profit largely comes from the success of real estate development that is realized as a result of the accessibility that comes with the provision of transit.

### Tokyo, Japan

Tokyo's railway companies rely on land value capture models as a means of funding transit and generating profit. The approach is different to Hong Kong because they have not just built individual buildings but new towns on green field sites. Due to the economic downturn they have developed new revenue streams and approaches such as strategic partnerships and strategic infill development, such as urban shopping center development above and integrated with urban rail terminus stations. The Japanese Railway Construction Public Corporation is involved with rail projects that improved the urban environment at the same time. They also use a land readjustment method that sets aside land for the railway by substituting land acquired in advance by municipalities in an integrated development area.

### Oerstadt, Copenhagen

This was a joint venture between the Danish Government and the City of Copenhagen. The Government donated 310 hectares of land between the city and the airport and Öresund Bridge to Sweden. The idea was to fund a rapid transit rail system to the airport and bridge through capturing the increase in land value due to the improved accessibility of the rapid transit. This would pay for the capital costs. In addition, land taxes were planned to create a revenue stream capable of funding operational costs or re-paying loans required for the construction. A new development company was formed to deliver the project. Unfortunately, the rapid transit opened 3 years late and €800 million over budget. This was attributed to poor timing with respect to the economy and a resulting lack of demand for the development. The resulting urban development is successful for many reasons, but this case study also provides lessons regarding the risk of development and transit system construction.

### Canary Wharf Station, London

In the Docklands, London the private sector and not-for-profit business advocacy sectors have worked with the public sector to create discussion, tension and collaboration that has generated rigorous business case development, accountability and the delivery of successful transit projects in the city. In some cases, transportation projects and plans have been adjusted in response to private sector experience and expertise and significant public and private value has been created. For example, the Canary Wharf Group, the development and management Company responsible for the Canary Wharf Estate, has directly engaged and funded consultants to research, plan and act as advocates for three generations of rapid transit, including Docklands Light Railway, the Jubilee Line Extension and Crossrail. Canary Wharf Group made their own contributions to the rapid transit projects, including financial contributions

and the assumption of risk. The Canary Wharf Group has collaborated with London First, a business coalition for policy and development and advocacy whose mission is to make London the best place in the world to do business. This was done to strengthen the business case through support from the private sector, and led to new taxes on development and businesses to pay for transit.

Canary Wharf will be one of the largest Crossrail stations. Like the nearby Canary Wharf Tube station, the new Crossrail station will be built in docklands area, and the station and proposed retail and park areas will be six storeys high.

In return for having access to this new station, linking Canary Wharf's Financial District to London Heathrow airport in 39 minutes, the private sector developer agreed to a £150 million contribution or approximately 33% of the total construction costs. The station box has been designed and constructed on behalf of Crossrail by Canary Wharf Contractors Limited, a wholly owned subsidiary of Canary Wharf Group plc. It is being built for a fixed price of £500 million, of which CWG is making its contributing.

## Edinburgh Rail Ltd

The Edinburgh Rail method of LVC is based on a voluntary partnership with developers and landowners. It negotiates Contribution Agreements (CAs) with developers around potential transit stations. These CAs are based on a sharing of the land value uplift between the developer and the transit provider. The funding generated by the method is placed in a protected Trust Fund linked exclusively to the transit project. It is a method that goes with the grain of the market and equitably shares the wealth created by the increased accessibility of the transit. It only works where there is development potential, the transit line opens up areas that people want to go to and the private sector is convinced there is not enough public funding to provide the transit.

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## Examples of taxation-based LVC methods

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### Translink, Vancouver

In March 2008, Translink launched a real estate division and plans to develop property as a way to generate funds for transit. Under the plan Translink will purchase land along new transit routes and around stations and increase the value through intensification of land use zoning and partnerships with developers to create high-density commercial and residential developments. Estimates of the revenue stream were around \$30 million per year over 5 years. It is interesting to note that after the opening of the Sky-Train in 1985, developers zoned in on the areas around the stations. A total of 7,870 houses were built within a 500m radius of stations between 1986 and 1996. In addition, commercial towers rose up around the stations. The uplift in value was not realized at that time but Translink is now planning four transit villages to augment existing hubs creating attractive, compact, mixed-use communities centered on the transit stations.

### Washington Metropolitan Area Transit Authority (WMATA)

The WMATA's joint development program began in the 1970's and became known for its in-house real estate expertise, profitable deals and innovative deal structures. The program is delivered through property owned and/or controlled by the WMATA that is marketed to commercial and residential private developers with the objective of developing transit-oriented development projects. Until the mid-2000's the WMATA proactively purchased land adjacent to stations for joint development projects. The average annual gross revenue from their activities was more than \$6 million. In 2008, the WMATA adopted revised joint development policies that improved responsiveness to development opportunities and market conditions, promoting more cooperation between local planners and focusing on the long-term benefits of TOD.

### MAX extension, Portland Oregon

In 1999, a joint development proposal was brought forward to fund a \$125 million extension of Portland's light rail system, MAX, to the airport. The stakeholders included the Port of Portland, the City of Portland, the Portland Development Commission, Tri-Met (the transit agency) and a private development company Cascade Station Development Company. The private investors agreed to take responsibility for repayment of the \$28.2 million in bonds and in return they received an 85 year ground lease on 120 acres that included 2 of the 4 planned stations. The remainder of the funding came from the Port of Portland (\$28.3 million), the Tri-Met general fund (\$45.5 million) and the City of Portland (\$23.0 million from an urban renewal fund and TIF). Significant growth has occurred around Cascade Station since 2005.

### Columbia Valorization Tax

Public works in Columbia are funded by valorization taxes. This tax takes the form of an up-front tax that theoretically recovers the uplift in value resulting from direct public investments. The tax is based on a valuation of the properties before and after the works are undertaken and the rate is calculated using "benefit factors" based on land use classes. Over 50% of the main highway network in Bogota was funded using this method.

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## Example of combined LVC methods

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### Streetcar, Portland, Oregon

The streetcar in Portland Oregon was funded using a Special Assessment District, Oregon Lottery-backed bonds, the Federal government and advertising on the vehicles and stops. They established two Local Improvement Districts (LIDs) to serve the Pearl District, a previously vacant, low-density neighborhood. The one-off levy from the LIDs combined with development and density increases raised 17% of the \$56 million required. The streetcar and the new intensified zoning transformed the area into one of the most in-demand real estate markets in the city.

### Crossrail, London

This project is a good example of collaboration between the public and private sectors and a combination of development-based and taxation-based LVC funding. Total cost of £14.5 billion of which private sector will contribute £5.5 billion. The project promoted TOD development bringing in extra value from the private sector. They were able to demonstrate risk transfer to the private sector and also show the community that those who gained also contributed to the cost. For example, at Woolwich Station Berkeley Homes contributed £100 million. The joint venture produced a strong business case that showed that Crossrail helped create a competitive city, brought relief to other transit lines and brought 1.5 million people within 45 minutes of central London. There were also wider economic benefits defined.

### Hudson Yards, New York

The Hudson Yards is a 360 acre comprehensive proposal to realize the development potential of Manhattan's Far West Side. The project is currently beginning construction. The project includes extending the subway service, establishing a new open space network, zoning for appropriate densities and mixed-use and creating a convention corridor. The financing plan involves capturing the incremental revenues from new commercial and residential development in the area to cover debt service on bonds that will be issued by the Hudson Yards Infrastructure Corporation (HYIC), a special purpose local development corporation. In effect, Hudson Yards is driving, through very significant contributions, the extension of the number 7 subway in New York City.



