GREATER VANCOUVER
BOARD OF TRADE

GREATER VANCOUVER ECONOMIC SCORECARD 2016

SUMMARY REPORT

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MESSAGE FROM THE CHAIR AND THE CEO

Tim Manning
2015-16 Chair,
Greater Vancouver
Board of Trade

Iain J.S. Black
President and CEO,
Greater Vancouver
Board of Trade

Two years ago, the Greater Vancouver Board of Trade's board of directors established a vision to develop a region-wide approach to economic development. The first step was to assemble the needed data, or a "starting point" of empirical evidence, that would serve as the foundation to assess where we are and define who we would like to be.

Recognizing that this would be an ambitious undertaking, we enlisted the help of the country's leading independent research organization, the Conference Board of Canada, to analyze how our region compares to other similar jurisdictions across the globe. Over the past 24 months, the Scorecard has taken on a life of its own, growing in its breadth and scope. The result is the most comprehensive view of our region ever assembled.

Scorecard 2016 includes an exhaustive overview of how our region performs among 20 international competitors on 32 key indicators. It is, without question, the most significant piece of public policy work the Greater Vancouver Board of Trade has completed in more than two decades, and will steer our advocacy efforts for years to come.

Our hope is that this document will become a regular exercise that tracks and benchmarks our progress as a region, and it is our intent to release the next iteration in early 2018. In order for Greater Vancouver to continue its evolution into a world-class region, our elected officials and business leaders need to know how we stack up against our peers and competitors around the globe.

On behalf of our 36 board directors, we would like to thank the research staff at the Conference Board of Canada and their President and CEO, Dr. Daniel Muzyka, for the countless hours of work and analysis that went into creating this foundational document.

We'd also like to thank the members of our Scorecard Committee — an impressive list of exceptional business and community leaders with a regional and multi-disciplinary perspective — with particular thanks to our three co-chairs, Larry Berg, Sue Paish, and Jonathan Whitworth. Special thanks also go to past co-chair Carole Taylor, whose tireless efforts helped get this project off the ground. When we first called on these volunteers to provide their expertise, it was meant to be a six-month commitment. As the scale and substantive nature of this project became clear, the committee graciously extended their terms of engagement, for which we thank them.

Without the hard work, dedication, and collaboration of those listed above, this Scorecard would not have become a reality. Our region, its citizens, and its businesses will reap the rewards of your work for years to come.

ABOUT THE GREATER VANCOUVER BOARD OF TRADE

Since its inception in 1887, the Greater Vancouver Board of Trade has been recognized as Pacific Canada's leading business association, engaging members to positively impact public policy at all levels of government and to succeed and prosper in the global economy. With a Membership whose employees comprise one third of B.C.'s workforce, we are the largest business association between Victoria and Toronto. We leverage this collective strength, facilitating networking opportunities, and providing professional development through four unique Signature Programs. In addition, we operate one of the largest events businesses in the country, providing a platform for national and international business and thought leaders to further enlighten B.C.'s business leaders.

MESSAGE FROM THE CO-CHAIRS

LAND. LABOUR. CAPITAL.

In classical economics, these are the three factors required for a productive economy. But in today's globalized world, the rules of the game are changing.

Skilled workers and capital investments are more fluid than at any point in human history, transcending borders and shifting across the globe as freely as the trade winds.

Greater Vancouver has the potential to become one of the most enviable economic regions in the world. But if we want to compete with the likes of Sydney, Shanghai, and Seattle, we must start thinking as a region and working to attract businesses and people to our community.

This Scorecard is the first step. By critically analyzing and identifying our strengths and weaknesses, we can start taking action. We can both stay one step ahead of global trends and our competitors, while at the same time define our future rather than have it define us.

The diverse makeup of our Scorecard committee (page 52) reflects the important nature of the task at hand. Our committee members' experiences span industries and stretch into every corner of our region, because they understand this is an effort that can only be accomplished through collaboration.

For far too long, we have grouped ourselves in silos by sector or by community. Meanwhile, the rest of the world looks at us as, simply, "Vancouver." We learned that lesson during the 2010 Winter Olympic and Paralympic Games, which was one of our most celebratory moments as a community on the world stage, and a testament to what can be accomplished when we pull together.

Addressing some of the challenges identified in this report will be extremely challenging, given their complexity, local government fragmentation, and the interconnected nature of the issues at hand. That said, nothing worth doing is ever easy, and there has never been a higher level of urgency to act now.

Our committee believes this community has what it takes to elevate Greater Vancouver to the next level. We now have our starting point. Let's get to work.

Larry Berg

Sue Paish

Jonathan Whitworth

MESSAGE FROM THE POLICY COUNCIL: THE PATH FORWARD

It is clear from the findings of Scorecard 2016 that our region has a number of areas requiring immediate attention.

Accordingly, the Policy Council (a special committee of the Greater Vancouver Board of Trade) has identified the following four areas that will guide our advocacy efforts, projects, policy priorities, and committee focus beginning immediately.

- Gateway Resources
- Housing Affordability and Public Transit
- Human Capital
- Regional Coordination

Additional information available at boardoftrade.com/scorecard

Lori Mathison

CONTENTS

SCORECARD METHODOLOGY

- The Scorecard uses a report card-style ranking of A–B–C–D to assess performance of each metro area for each indicator.
- For each indicator, the Conference Board calculated the difference between the top and bottom performer and divided this figure by four.
- A metropolitan area received a scorecard ranking of "A" on a given indicator if its score was in the top quartile, a "B" if its score was in the second quartile, a "C" if its score was in the third quartile and a "D if its score was in the bottom quartile. A metropolitan area was assigned an N/A if the data was unavailable for that indicator.
- The overall ranking is calculated as an average of the Economy and Social domain scores.

HIGHLIGHTS

Greater Vancouver has undergone many changes over the past 25 years—adapting to major global and domestic trends. In this report, we first look back to assess the changes that have shaped the region and identify the industries that have contributed to the success. In light of this understanding, we then look forward to consider the trends that will continue to shape Greater Vancouver in coming years and further into our future.

$119b

value in goods and services produced in 2014

(PREVIOUS PAGE) ISTOCK

THE HIGHLIGHTS AT A GLANCE

- Overall, the region places ninth in a ranking of 20 global metro regions that assesses attractiveness to highly skilled talent and business investment.
- The region places seventh of 20 on the social scorecard category and ninth of 20 in the economic scorecard category.
- Among the marks, Greater Vancouver got an A for clean air and a D for housing affordability.
- Past, present and future successes of Greater Vancouver's economy are closely linked to growing ties with Asia, with the transportation sector identified as a key industry cluster.
- Poor performances on some indicators highlight significant challenges to maintain economic vitality, including: poor housing affordability, comparably fewer head offices, limited land for trade-enabling port expansion, inadequate road and public transit infrastructure, relatively low labour productivity and household incomes, a high marginal effective tax rate on capital, and a low proportion of residents aged 25 to 34.

Vancouver gets high marks in our Scorecard for its clean air but low marks for housing affordability | ISTOCK

THE MIXED BAG OF GREATER VANCOUVER

Greater Vancouver is defined as the Vancouver census metropolitan area (CMA), which encompasses 39 census subdivisions, including the City of Vancouver. It is Canada's third-largest metro region, in population and economic activity, behind Toronto and Montreal. It boasts nearly 2.5 million residents and in 2014 produced goods and services valued at $119 billion.

On the surface, the results appear bullish. Digging deeper, though, there are disquieting signs.

Greater Vancouver's real GDP per capita growth has outpaced the national average since 2005. Between 2010 and 2014, the metro region's annual average real GDP per capita growth was 1.9 per cent, 0.5 points above the national average of 1.4 per cent. Real GDP surpassed three per cent growth in four of the past five years.

The region's recent economic strength can be largely attributed to strong in-migration, an influx of businesses and private investment, and

Vancouver International Airport (YVR) is Canada's second-busiest, with more than 20 million passengers and 23,000 employed at its 400-plus businesses | ISTOCK

the growing importance of its role as Canada's Pacific Gateway to Asia.

There's no doubt Greater Vancouver's economy has benefited from its close and growing ties with Asia—the importance of transportation and warehousing is evident in our analysis. Foreign investment is also likely in part responsible for the region's boom in residential real estate, although evidence for this is still being gathered.

But Greater Vancouver has a lot more going for it. Financial services, insurance, tourism and information technology are some of the sectors, or traded clusters, where the metro region has demonstrated its competitive advantage in relation to the rest of Canada.

Overall, though, the service sector has dominated the labour market—both on the high and lower ends of the skills spectrum.

In recent years, professional, scientific and technical services employment—largely knowledge-based occupations—has been on the rise. Today this broad sector is Greater Vancouver's third-largest employer.

But the region's recent performance by no means guarantees future success.

THE COMPLEX ROAD AHEAD

Looking ahead, globalization will continue to increase competition among nations and the regions within them. Lower trade and investment barriers and rapid advances in transportation and information and communications technologies will drive this process. The information technology revolution has also accelerated the shift to the knowledge economy, increasing the demand for more highly skilled workers.

This is happening while aging populations are leaving the workforce in significant numbers in many countries. The situation will leave Canada

2.5m

residents in Greater Vancouver, defined as the Vancouver Census Metropolitan Area, which encompasses 39 census subdivisions, including the City of Vancouver. It is Canada's third-largest metro region, in population and economic activity, behind Toronto and Montreal

and its metro regions competing for global talent.

Canada's aging workforce poses a special challenge. The number of baby-boomers leaving the workforce will accelerate for at least another 15 years. In 2015, for every worker hired, employers also had to replace 1.5 workers who retired—a ratio that will only climb as we go forward.

This is happening at the same time that many developed countries are experiencing a demographic shift—aging populations are leaving the workforce in significant numbers. In Canada, for example, the 2011 census showed that for the first time there were more people in the age group 55 to 64, where people are frequently about to leave the labour force, than in the age group 15 to 24, where people are often about to enter it. Against this backdrop, international competition for highly skilled workers among countries, regions, and cities will only intensify. Successful cities will be those that offer great career opportunities and a high quality of life and, thus, attract both talented people and business investment.

Canada's and Greater Vancouver's employers are challenged to keep labour costs competitive globally. Wages across Canada have increased substantially above inflation over the past decade, while productivity growth has waned.

BUILDING ON STRENGTH

Over the past decade, there have also been significant changes in Canada's trading patterns. While Canadian trade has been traditionally geared towards the U.S., that pattern is gradually shifting. Canadian trade with the U.S. has been stable over the past decade, while trade with other countries has been strengthening. The U.S. remains Canada's largest trading partner, and will remain so in the foreseeable future, given its geographic proximity and its economic size. However, the importance of the U.S. to Canada has been balanced by a diverse trading relationship. On the other hand, Canada's trade with Asia has been growing for decades,

The region balances its trading relationship between its largest trading partner, the United States, and the ascendant Asia | ISTOCK

surpassing trade with Europe in 2010. In fact, Asia is now Canada's second-largest trading partner. Asia's insatiable thirst for natural resources partly underpins this growth.

The economic growth leader over the past 25 years has been professional services, and technical services. Output in this sector grew by a vigorous 4.6 per cent per year from 1990 to 2014. This industry includes well-paying, high-quality occupations, including legal services, accounting, architectural services, engineering, computer system design, and research and development. Accordingly, its share of output has increased from 4.3 per cent in 1989 to 6.4 per cent in 2014.

The rise of professional, scientific and technical services reflects the growing importance of the knowledge economy, a trend underway across the globe. Knowledge-based jobs are those that are directly based on the production, distribution and use of knowledge and information. Employment in the knowledge-based economy is characterized by increasing demand for more highly skilled workers. Since the 1980s, new work has been getting much more cognitive in nature, a trend tied to the information and communications technology (ICT) revolution.

Over the last 10 years, the economic growth leader has been construction. Output advanced by an average of 4.2 per cent per year from 2005 to 2014 and an even stronger 4.6 per cent annually from 2009 to 2014. The region's hot housing market has been a major story driving residential construction activity. However, non-residential investment growth has been even more robust. Between 2005 and 2014, residential building permits increased by 2.8 per cent per year, while non-residential building permits grew by 6.9 per cent annually.

The finance, insurance and real estate industry, Greater Vancouver's largest sector in terms of GDP, has also seen strong growth in recent years. This is reflected in the increasing importance of the Vancouver region as an international financial centre, but also rising activity in the region's real estate sector. (The finance, insurance and real estate sector includes output generated from owner-occupied dwellings, an industry in which homeowners are considered landlords renting their houses to themselves.)

The transportation and warehousing sector, the region's fifth-largest industry in 2014 and a key cluster, has seen steady growth just slightly below the overall average. From 2005 to 2014, economic growth averaged 2.4 per cent per year. But in the last five years, growth has picked up to average 3.6 per cent annually.

Finally, manufacturing posted the slowest growth, eking out an average annual gain of 1.1 per cent from 1990 to 2014. However, even with this slow growth, the sector remains the region's third-largest in terms of GDP. The local manufacturing story is not unique, as the same trend has been underway countrywide. Several factors have hurt the industry, including rising foreign competition and a strong Canadian dollar over much of the 2000s.

WHERE THE JOBS ARE

Greater Vancouver's economy has created 478,000 new jobs since 1990, the vast majority of which were in the services sector. In fact, nearly 421,000 of these jobs, accounting for 88 per cent of the total, have been services producing jobs. At the same time, almost all of the job gains on the goods side have been in construction, with very few jobs created in resources, manufacturing, and utilities. Accordingly, services' share of total employment has been slowly increasing, rising from 80 per cent in 1989 to 83 per cent in 2014. In other words, four out of five jobs in the region are services sector jobs. It should be noted, however, that a significant proportion of Greater Vancouver's services-sector jobs are supported by activity that originates in the natural resources sector and other segments of the goods economy. The public sector has been Greater Vancouver's biggest job creator since 1990, accounting for 131,000 net new jobs. Of the three industries that make up the public sector—health care, education and public administration—the vast majority of the job gains have been in health care and education. However, public-sector job growth has been slower in recent years, as the provincial government entered a period of fiscal restraint.

At 136,600 employees in 2014, the health-care and social assistance sector is Greater Vancouver's second largest employer, behind only retail trade. The metro region is home to many health centres and hospitals, including three of B.C.'s largest academic and teaching health science centres—Vancouver General Hospital, UBC Hospital and GF

The Vancouver Convention Centre is an important hub for tourism, one of the region's traded clusters | ISTOCK

City host volunteer assisting visitors with directions near Canada Place | TOURISM VANCOUVER/ SUZANNE RUSHTON

Customers relax on the terrace of La Luna Café in Gastown, one of Vancouver's historic attractions for tourists and a bustling retail district | DEYMOS.HR/SHUTTERSTOCK.COM

Strong Rehabilitation Centre. With the population growing older, demand for health care services will continue to expand in the years to come, and thus employment will surely climb further.

Education, which employed 96,500 people in 2014, is another major local job creator. The importance of this industry should not come as a surprise since the region is home to a number of respected and international post-secondary institutions, most notably the University of British Columbia (UBC), Simon Fraser University (SFU), and the British Columbia Institute of Technology (BCIT).

Although education is part of the public sector, as it is largely government-funded, it affects the local business sector in a number of ways. First, post-secondary institutions channel highly skilled workers to both the public and private sectors, as many who study in Greater Vancouver choose to work in the region or elsewhere in B.C. after completing their degrees. Post-secondary institutions also generate services exports by attracting international students to the region. For example, 11,000 of UBC's students in 2014, or more than 21 per cent of its total student population, were from outside Canada. Because of its international appeal, UBC also generates export activity through visiting scholars, conferences, parent visits and cultural attractions such as the Museum of Anthropology and the Chan Centre.

The second-largest job creation has come from other services, which includes administrative and support services, information and culture, arts, entertainment and recreation, and accommodation and food. Since 1990, these industries have been responsible for the creation of 82,700 jobs. Employment growth has been strong in all of these industries, except for information and culture. In fact, 1,800 jobs have disappeared in information and culture since 2005. This softness is most likely the result of the massive restructuring that has been taking place in the publishing industries, sparked by the rise of digital and online media.

Against this backdrop, it is essential for metro regions to know their strengths and weaknesses and how they stack up against other globally competitive metro areas in this race for talent and investment.

OUR TRADED CLUSTERS

Five main clusters of firms and institutions that serve markets beyond the region are at the heart of economic activity in Greater Vancouver: transportation, high tech, tourism, finance and insurance, and information and culture.

GREATER VANCOUVER'S TRADED CLUSTERS

SUMMARY

A traded cluster is a group of firms and institutions that are located near one another and draw productive advantage from their mutual proximity and connections, and also serve markets beyond the region in which they are located. A particular type of cluster—a traded cluster—is what interests us here.

- Five traded clusters emerge for Greater Vancouver: transportation, high tech, tourism, finance and insurance, and information and culture.
- The metro region's status as Canada's gateway to Asia is a key reason why transportation is the region's largest traded cluster.
- The region is an attractive destination for tourists from across Canada and the world.
- Greater Vancouver has developed a niche in television and film production.
- High tech is a growing industry in Greater Vancouver, with several startups being born out of research conducted at local post-secondary institutions.
- The finance and insurance industry cluster has been growing in international prominence.

(PREVIOUS PAGE) ISTOCK

Vancouver's Olympic Village is a burgeoning neighbourhood with a thriving hospitality hub | DOMINIC SCHAEFER

Traded clusters are key drivers of regional economic growth. Examples of famous traded clusters include the high-tech industry in Silicon Valley and the TV and film industry in Hollywood. Cluster analysis can help diagnose a region's economic strengths and challenges and identify realistic ways to shape the region's economic future.

Using employment by industry data, our analysis found that 16 out of 59 industries were candidates to be traded clusters. From these 16, we removed those industries that largely serve the domestic market, leaving us with 11 industries.

The importance of Greater Vancouver's role as Canada's gateway to Asia cannot be overstated.

Port of Vancouver and Vancouver International Airport have a geographic edge—both being the closest large North American facility in their respective industry to many fast-growth Asian markets.

TWO PILLARS: THE PORT AND THE AIRPORT

Vancouver International Airport (YVR) is Canada's second-busiest airport. Its vision is to be a world-class, sustainable gateway between Asia and the Americas. YVR experienced growth of more than one million passengers in both 2014 and 2015, setting a new passenger record of over 20 million in the latter year. In 2015, YVR also saw over 271,000 tonnes of cargo handled on and off aircraft.

Over 400 businesses operate at YVR employing more than 23,000 people. Direct jobs at YVR generate over $1.1 billion in wages, for a GDP impact of $1.7 billion on the overall Canadian economy. YVR also generates over $700 million in tax revenues for federal, provincial and local governments. A daily new international air service adds between 100 and 200 person-years of direct employment at the airport and a further 150 to 300 jobs in B.C.'s tourism sector—hotels, restaurants, shops and tourist attractions.

The planned expansion at Roberts Bank will boost container capacity at the Port of Vancouver | WILLIAM JANS

Vancouver's airport offers 121 non-stop destinations worldwide, served by 54 different airlines. Top global freight companies operate at the airport and skyrocketing volumes of e-commerce have boosted activity at its new mail processing facility—which handles over 30,000 parcels daily from Asia alone.

Likewise, Port of Vancouver is Canada's largest, busiest and most diversified port, connecting the country to more than 170 trading economies annually, mainly those located in the Asia-Pacific region. The Port of Vancouver also has the strategic advantage of being served by three Class-1 railways: Canadian National (CN), Canadian Pacific (CP) and Burlington Northern Santa Fe (BNSF), providing choice and added reliability for shippers and customers through the Greater Vancouver gateway.

According to economic impact studies, the port handles about 19 per cent of Canada's total trade, amounting to a total value of imported and exported commodities to and from Canada of $894 billion. It is also the third-largest tonnage port in North America. The trade and port-related activities have a significant economic impact on the region, province and Canada.

Trade with Asia would receive a boost if the recently signed Trans-Pacific Partnership (TPP) deal is ratified. Countries in the TPP accounted for almost two-thirds of British Columbia's international exports in 2014. Many of these goods are shipped through the Port of Vancouver. In addition, Canada is currently negotiating a comprehensive trade agreement with India, another growing destination for goods moving through the port.

Despite concerns over slowing Chinese growth, both India and China are poised to generate continued robust growth in real income per household in their own countries. Both countries will remain sources of growing demand for Canada's resources, but more and more they are becoming consumer economies providing markets for Canadian goods and services that are higher up the value chain.

Having said that, it is important to note that the U.S. remains B.C.'s largest trading partner, with B.C. exporting nearly $18 billion of merchandise to the U.S. in 2014. It will remain the top trade market for the foreseeable future, given the size of the U.S. economy and its proximity to B.C. The importance of the U.S. to B.C. had been trending downward until 2011, when this trend started to reverse as the Canadian dollar lost strength vis-a-vis the U.S. greenback and the U.S. economy pulled out of the recession. Indeed, B.C.'s export volumes to the U.S. jumped by over 15 per cent in 2014 and a further 3.7 per cent in 2015. The continued weakness of

Backpackers on the High Note Trail above Cheakamus Lake near Whistler, British Columbia | DAVID P. LEWIS/SHUTTERSTOCK

the Canadian dollar and a healthy U.S. economy point to further strengthening in the province's export volumes to the U.S., at least in the near term.

As mentioned, traded clusters are groups of related industries that service markets beyond the region in which they are located. Our study confirmed that the transportation sector is one of the key traded clusters in Greater Vancouver, along with finance, high tech, information and culture, and tourism.

8.9m

people visited and stayed at least one night in Greater Vancouver in 2014

THE TOURISM DRAW

Greater Vancouver is an attractive destination for tourists from across Canada and the world, making this sector an important cluster. While many of the visitors are domestic, growth in the number of international visitors has been solid. Asia's influence on tourism is also growing. In particular, the number of Chinese tourists visiting Greater Vancouver reached 230,000 in 2014, up from 89,000 in 2009 when Canada was granted Approved Destination Status by the Chinese government. A weaker Canadian dollar vis-a-vis the greenback is also helping to boost U.S. visits.

Overall, sport and cultural event hosting (for example, the 2015 FIFA Women's World Cup), cruise ships, convention capacity and the "Whistler effect" of the nearby resort helped spur more than 8.9 million people to visit and stay at least one night in Greater Vancouver in 2014. Spending by tourists on accommodations, food, travel, and activities has a significant impact on Greater Vancouver's economy, generating billions of dollars in revenue and supporting thousands of jobs each year.

THE FILM AND TV MOMENTUM

Information and culture, particularly the motion picture and sound recording industries, is an important and growing industry in Greater Vancouver. It has become a significant success story in the economy.

Generous provincial and federal tax incentives, proximity to Los Angeles, skilled crews, industry infrastructure and attractive natural scenery have made Greater Vancouver and British Columbia a popular location for foreign film and television production. Over the past few years, foreign producers spent roughly $1.1 billion annually in B.C.—an amount likely to grow, because the depreciated dollar lowers costs for U.S. producers filming in Canada.

The Vancouver Economic Commission says in North America in motion picture and television production spending—only behind Los Angeles and New York. Many other jurisdictions in Canada and the United States offer tax credits and subsidies to attract producer spending, but the weak Canadian dollar coupled with the expertise of the local workforce in film, television and visual effects should help Vancouver maintain its status as "Hollywood North."

B.C.'s Ryan Reynolds returned to Vancouver in 2015 to film the blockbuster movie Deadpool | TWENTIETH CENTURY FOX

The "Whistler Effect" serves the Greater Vancouver region as an attraction for tourism and investment | PIERRE LECLERC

THE INFORMATION ECONOMY

Greater Vancouver's information and communications technology sector is rapidly expanding—boasting well-established global companies like Telus and a steady stream of start-ups. Over the past five years, employment in this sector has risen by four per cent annually, to top 58,000 jobs in 2014—4.5 per cent of Greater Vancouver's total employment. Specifically, two high tech-related sectors—computer and electronic manufacturing and computer-system design services—have been identified as traded clusters. Greater Vancouver is also home to three of Canada's four so-called "unicorns" in tech: Slack, Avigilon and Hootsuite.

Existing high-tech companies are attracted to Greater Vancouver by the highly skilled workers that call Vancouver home, many of whom are graduates of post-secondary institutions (universities, institutes, and colleges) with campuses in the region, such as the University of British Columbia (UBC), Simon Fraser University (SFU), and the British Columbia Institute of Technology (BCIT).

THE FINANCIAL AND INSURANCE HUB

Vancouver's finance sector has been quickly rising in prominence internationally—ranking 14th as a global financial hub, three spots below Toronto and ahead of Montreal. In 2014, 41,900 people worked in finance, while 20,400 people worked in the insurance industry. Greater Vancouver's well educated workforce, strong economic growth and investments in transportation infrastructure are thought to be adding to the success of finance and insurance firms.

The future for the region's finance and insurance sectors looks bright. Continued trade with the Asia-Pacific region in the coming years should help Greater Vancouver's finance sector grow in worldwide importance. Rising trade with China opens the possibility that Vancouver could become a direct trade settlement hub using Chinese currency, the renminbi. Canada's insurance industry has also been taking advantage of underserved markets in China and Asia.

The region has benefited from its close ties with, and proximity to, China and other fast-growth Asian markets. Growth in transportation infrastructure has bolstered gateway activity and attracted significant private investment. The economy has also benefited from the highly skilled workforce supplied by its many educational institutions, and its attractiveness to interprovincial and international migrants. Greater Vancouver's continued success will likely depend on these very same factors—its ability to continue to draw private investment and skilled workers, competing globally with other metro regions.

OUR BENCHMARKS

The Scorecard assigned grades across 32 different economic and social indices to Greater Vancouver and compared the results to 19 other metropolitan areas.

(previous page) Moody sky over False Creek with skyline and Science World | TOURISM VANCOUVER/VISION EVENT PHOTOGRAPHY

Construction continues to boom in Vancouver but cannot keep up with demand in one of the world's most expensive housing markets | ISTOCK

TABLE 1

THE BIG PICTURE: SINGAPORE RANKS FIRST

Ranking	*CMA*
1	Singapore
2	Copenhagen
3	Hong Kong
4	Calgary*
5	Seattle
6	Barcelona
7	Sydney
8	San Francisco
9	**Greater Vancouver**
10	Toronto
11	Portland
12	Seoul
13	Rotterdam
14	Montreal
15	Houston*
16	Halifax
17	Manchester
18	Shanghai
19	Los Angeles
20	Miami

* Results for Calgary and Houston do not take into account the impact of the collapse in oil and gas prices.

SCHOOLHOUSE SCORING FOR BENCHMARKING

The purpose of this section of our report is to benchmark Greater Vancouver against other global metro regions. We use a report card-style ranking of A, B, C and D letter grades to assess the performance of metropolitan areas for each indicator.

We assigned grades using the following method: for each indicator, we calculated the difference between the top and bottom performer and divided this figure by four. A metropolitan area received a scorecard ranking of A on a given indicator if its score was in the top quartile, a B if its score was in the second quartile, a C if its score was in the third quartile and a D if its score was in the bottom quartile. A metropolitan area was assigned an N/A if the data was unavailable for that indicator.

The results of Greater Vancouver's Scorecard are based on 32 indicators grouped into two categories: Economy and Social. The Economy category measures local economic performance and business environment, while the Social category attempts to capture some of the social and environmental complexities that distinguish a great metro region from a mediocre one. The combination of successes on all fronts make a region attractive to people and private investment.

One of the main purposes of our report is to assess, through benchmarking, Greater Vancouver's relative performance and potential in attracting labour and business investment against 19 other global metro regions.

Given the strategic importance of transportation to Vancouver's economy, 18 of these 19 comparator regions were selected because they are also major transportation gateways. Calgary, the lone metro region without an outsized transportation sector, is included in the rankings because its relative proximity to Vancouver makes it a key competitive measuring stick.

Singapore tops the overall rankings. (SEE TABLE 1, P22) The city-state's strategic location on the vital Strait of Malacca shipping route gives it the largest port relative to the size of its economy among our Asian metro areas and helps it achieve a top Economy category ranking. Singapore's performance is less robust in the Social category.

A European metro area with a rich cultural heritage, Copenhagen, sits in second place and performs better in the Social category than in Economy. In contrast, Hong Kong and Calgary, which come in third and fourth place, draw much of their strength from a strong performance among the economy-oriented indicators. On the other hand, U.S. high-tech powerhouse Seattle, our fifth-rated metro area, performs strongly in both Economy and Social, ranking no worse than sixth in both categories.

The bottom five are similarly disparate with one metro area each from Canada (Halifax), Europe (Manchester) and Asia (Shanghai), and two from the United States (Los Angeles and Miami). Miami is our report's bottom-ranked region, with a last place finish in Economy and an only marginally better 18th place finish in Social.

Greater Vancouver ranks ninth overall in the

The climate for business is helped by relatively low labour costs but hurt by a high marginal effective tax rate | TOURISM VANCOUVER/CANADIAN TOURISM COMMISSION

TABLE 2

ECONOMY RANKING

Ranking	CMA	Value	Grade
1	Singapore	0.65	A
2	Hong Kong	0.52	A
3	Shanghai	0.51	A
4	Calgary*	0.49	A
5	Seattle	0.45	B
6	Copenhagen	0.45	B
7	Houston*	0.44	B
8	San Francisco	0.44	B
9	**Greater Vancouver**	**0.43**	**B**
10	Seoul	0.40	C
11	Sydney	0.39	C
12	Rotterdam	0.39	C
13	Toronto	0.39	C
14	Halifax	0.37	C
15	Barcelona	0.37	C
16	Montreal	0.36	C
17	Portland	0.36	C
18	Los Angeles	0.33	D
19	Manchester	0.30	D
20	Miami	0.29	D

*Results for Calgary and Houston do not take into account the impact of the collapse in oil and gas prices.

Scorecard, the combination of a seventh-place finish in the Social category and a ninth-place spot in Economy. Despite its relatively high Social ranking, the domain still highlights three factors that negatively impact the region's livability—poor housing affordability, inadequate public transit and road infrastructure, and educational attainment rates that fall short of the Scorecard's leaders.

ECONOMY: GREATER VANCOUVER PLACES IN THE MIDDLE-OF-THE-PACK

Singapore's top spot in the Economy category is partly due to its first place finishes on three indicators: real GDP per capita growth, employment growth and the unemployment rate. (SEE TABLE 2, P24)

Two other Asian metro areas—Hong Kong and Shanghai—round out the top three. Several U.S. metros also earn high grades in the Economy rankings: Houston—an oil and gas industry hub—as well as Seattle and San Francisco—high-tech hubs—finish in the top 10.

Calgary ranks fourth, making it the top-ranked Canadian metro region. But given that this benchmarking analysis is based on backward-looking data, it is important to note that neither Houston nor Calgary's ranking take into account the negative impact of the collapse in oil and gas prices.

At the same time, U.S. metro areas also account for three of the bottom five ranked metro regions, with Miami finishing last. In particular, Los Angeles, Manchester and Miami were this category's three D-rated metro areas. These three regions were collectively awarded only six As, set against 33 Ds. Miami's low rankings can be largely attributed to the disproportionate force with which it was hit by the 2008-09 global recession. In fact, some of the effects still linger today. For example, Miami's real GDP per capita and labour productivity both fell over 2009-13.

Greater Vancouver finishes in ninth place with a B grade in the Economy category. The Greater Vancouver region's tax environment offers a mixed picture.

True, Greater Vancouver earns an A grade on KPMG's total tax index, which measures the total taxes paid by similar corporations in a particular location and industry, calculated as a percentage of total taxes paid by similar corporations across the United States. (SEE TABLE 3, P25) The metro region's high marks on this indicator are also a result of its lower statutory labour costs (payroll-based taxes) relative to its U.S. comparators.

But at the same time, Greater Vancouver has the highest marginal effective tax rate (METR) on capital investment for businesses among the five Canadian metro regions in the Scorecard, earning a C grade on this indicator.

The METR represents the proportion of the rate of return from a new investment that is used to pay corporate income taxes, sales taxes on capital purchases and other capital-related taxes, such as financial-transaction taxes and asset-based taxes. The METR gauges a region's competitiveness in attracting capital investment. Payroll taxes do not affect the METR because they raise the cost of labour and not capital.

Thus, Greater Vancouver does well on one tax indicator (KPMG's total tax index) and not on the other (METR on capital).

Greater Vancouver's poor showing on the METR can be attributed to British Columbia continuing to levy an unharmonized retail sales tax, which results in a significant tax on capital purchases.

The results of the Economy domain also reveal that Greater Vancouver suffers from relatively low levels of real GDP per capita and labour productivity, its small market size and its low share of high-tech workers.

Greater Vancouver ranks fourth out of 11 metro areas on venture capital investment per $1 million

TABLE 3

GREATER VANCOUVER'S ECONOMIC PERFORMANCE

Indicator	*Grade*	*Ranking*
KPMG's total tax index	A	3 (12)
Office rents (US$ per square foot)	A	5 (17)
Port cargo tonnage per $1 million of GDP	B	3 (19)
Labour productivity growth	B	7 (20)
Employment growth	B	11 (20)
Venture capital investment per $1 million of GDP	C	4 (11)
Port container traffic (TEUs) per $1 million GDP	C	5 (19)
Real GDP per capita growth	C	7 (20)
Number of cruise vessel calls	C	7 (18)
After-tax income growth	C	8 (19)
Number of participants at international associations meetings	C	8 (19)
Inbound airport cargo tonnage per $1 million of GDP	C	9 (20)
High-tech employment share	C	9 (19)
Unemployment rate	C	10 (20)
Inbound airport seats per capita	C	10 (20)
Marginal effective tax rate on capital investment for businesses	C	10 (17)
International visitors	C	11 (20)
Labour productivity	C	12 (20)
After-tax income per capita	C	13 (20)
Real GDP per capita	C	14 (20)
Market size	D	16 (20)

121

non-stop destinations worldwide by 54 airlines

360million

trips were made by transit in Greater Vancouver in 2015 (over 1 million/weekday)

6,226

high-tech businesses in Greater Vancouver employing 58,200 in 2014

Vancouver ranks 14th internationally as a global financial hub

138million

tonnes of cargo and $200 billion in goods are traded through the Port of Vancouver each year

20+million

YVR passengers in 2015

Named #1 Airport in North America for seven years in a row

57

minutes is the average commute time to and from work for Greater Vancouver residents

2.5million

residents in Greater Vancouver

Canada's third-largest metro region

Proportion of population foreign-born: 42.7%

$510million

in cargo floats in and out of the Port of Vancouver each day

About one in every five dollars of goods traded by Canada goes through the port (About 20% of our country's traded goods)

The 10-lane Port Mann Bridge connecting Coquitlam and Surrey is a major commuting and trucking route, the world's second-widest bridge and the second-longest cable stayed bridge | TRANSPORTATION INVESTMENT CORPORATION

TABLE 4

SOCIAL RANKING

Ranking	*CMA*	*Value*	*Grade*
1	Barcelona	0.60	A
2	Copenhagen	0.57	A
3	Sydney	0.56	A
4	Portland	0.54	A
5	Toronto	0.54	A
6	Seattle	0.53	A
7	**Greater Vancouver**	**0.52**	**B**
8	Manchester	0.51	B
9	Montreal	0.51	B
10	San Francisco	0.51	B
11	Calgary	0.51	B
12	Hong Kong	0.49	B
13	Rotterdam	0.49	B
14	Seoul	0.49	B
15	Halifax	0.49	B
16	Singapore	0.48	B
17	Los Angeles	0.44	B
18	Miami	0.42	C
19	Houston	0.42	C
20	Shanghai	0.27	D

of GDP, but it remains well behind leaders San Francisco, Houston and Seattle.

On a positive note, Greater Vancouver performs well on the transportation-oriented indicators. In particular, Greater Vancouver can boast North America's top-ranked port for both container traffic and tonnage, relative to the size of its economy. Moreover, Greater Vancouver is home to Canada's largest cruise port. Activity at Greater Vancouver's airport is more middle-of the-pack.

Finally, Greater Vancouver also gets good grades for its affordable office rents, offset by very poor housing affordability, which limits Vancouver's attractiveness to the highly skilled workers that businesses seek.

SOCIAL: GREATER VANCOUVER'S LIVABILITY SHINES THROUGH

The Social category contributes to our understanding of how 20 metro areas are performing on 11 measures of a region's socio-economic, environmental, and quality-of-life attributes. These measures underpin a region's ability to lure much-needed educated, creative and diverse people to fill cities now and in the future. They will consider regional quality of life as they choose where to live.

Two European metro areas emerge at the top of the field in the Social category: Barcelona and Copenhagen. (SEE TABLE 4, P28) Barcelona, the top ranked metro region, has the best climate in the Scorecard, and earns two more A grades for a low homicide rate and low income inequality. Although Copenhagen has the worst climate, it more than makes up for it with high numbers of people aged 25 to 34, high numbers of people with at least a bachelor's degree and high numbers of people working in the cultural sector. Rounding out the top five are Sydney, Portland and Toronto.

The bottom three metro areas—Miami, Houston, and Shanghai—share some common vulnerabilities. In particular, they all have long commute times (all get C or worse) and relatively unequal income distributions (all get Ds). Miami and Houston also suffer from relatively high homicide rates (both get Ds). One bright spot for these three localities is that they rate fairly highly for a "comfortable climate" (all are rated B or above).

Greater Vancouver ranks seventh overall with a B grade, placing it higher than all its Canadian counterparts except Toronto.

It gets high scores for its clean air—it leads all cities and regions surveyed for this report—for its large proportion of foreign-born residents and low homicide rate, all of which are attractive to potential residents. (SEE TABLE 5, P29) Its ranking confirms that Greater Vancouver is one of the world's most livable metro regions.

But anyone contemplating a move to the region faces exorbitant housing costs.

This limits the region's attraction to younger people who could represent its future. It received a D grade for its proportion of the population aged 25 to 34. Its other D grade in the Social category is in housing affordability. It ranks 15th out of the 17 metro regions for which data was available—only Shanghai and Hong Kong are less affordable. The two are likely intertwined, since first-time homebuyers (many in that age category) would likely find it difficult to gain a foothold in Vancouver's notoriously expensive housing market. This represents a major barrier to retaining and attracting talent and therefore business investment. Unfortunately, identification of causes and remedies for this clear and present danger are highly contentious.

The area also needs to rethink its regional public transit and transportation plans after a taxing-and-investment proposal was soundly rejected in a plebiscite in 2015. Indeed, Greater Vancouver receives C grades for its proportion of the workforce that non-car commutes and its average travel time to work.

TABLE 5

GREATER VANCOUVER'S SOCIAL PERFORMANCE

Indicator	*Grade*	*Ranking*
Air quality	A	1 (20)
Proportion of population foreign born	A	2 (19)
Homicide rate	A	9 (20)
Proportion of population that is employed in cultural occupations	B	10 (20)
Climate	B	12 (20)
Proportion of population with at least a bachelor's degree	C	9 (20)
Non-car commuting	C	8 (17)
Average travel time to and from work	C	10 (19)
Income inequality	C	11 (20)
Proportion of population aged 25-34	D	7 (19)
Housing affordability	D	15 (17)

THE BIG PICTURE: SINGAPORE RANKS FIRST

CHAPTER SUMMARY

- Singapore is the top-performing metro area, drawing much of its strength from a first place ranking in the Economy category.

- Copenhagen, Hong Kong, Calgary, and Seattle round out the top five.
- Greater Vancouver ranks in ninth place.
- Shanghai, Los Angeles, and Miami rank at the bottom, with all earning an overall D grade in one of the two categories.

Singapore, the island country often referred to as the Lion City or Garden City, tops the overall rankings. (SEE TABLE 1, P22) Strategically located on the Strait of Malacca, it is a vital international shipping route on the southernmost tip of Asia. This fact underpins Singapore's top ranking in the Economy category. It received eight A scores in this category and was the top-ranked metro area on three indicators—real GDP per capita growth, employment growth and unemployment rate. Singapore's port activity, while solid, is dwarfed by Euro-giant Rotterdam. Still, it is the largest port relative to the size of its economy among our Asian comparators, measured both in terms of its container traffic and its overall tonnage. The busy local airport also gets an A for its inbound tonnage. Singapore's performance is less robust in the Social category, where it ranks 16th.

A European metro area with a rich cultural heritage, **Copenhagen**, sits in second place and performs better in the Social domain than in Economy. In contrast, **Hong Kong** and **Calgary**, which come in third and fourth place, draw much of their strength from a strong performance among the economy-oriented indicators. On the other hand, U.S. high-tech powerhouse **Seattle**, our fifth-rated metro area, performs strongly in both Economy and Social, ranking no worse than sixth in both categories.

Barcelona and **Sydney** come next, placing sixth and seventh, respectively, with both metro regions boasting a strong Social performance that is offset by a less impressive Economy outcome. In Barcelona's case, the gap in performance between the two categories is particularly stark—it finishes first with an A grade in Social and places 15th with a C grade in Economy. In contrast, **San Francisco**, which ranks in 8th place overall, is more of a well-rounded performer that earns B grades in both categories.

Greater Vancouver, the focus of this report, lands in ninth spot. The metro region earns relatively high marks in the Social category, where it places seventh with a B grade. Although this performance aligns with a well-earned reputation for being one of the world's most livable regions, a few of indicators draw attention to trouble spots that hurt the region's appeal, particularly poor housing affordability and congestion. Greater Vancouver's Economy performance is middle-of-the-pack, ranking ninth with a B grade, and highlights areas of concern, specifically low levels of labour productivity, low per capita after-tax incomes, and a high marginal tax rate on capital for businesses. On a positive note, the metro region ranks relatively high on all five transportation-oriented indicators, confirming the region's status as a transportation gateway.

Toronto and **Portland** sit in 10th and 11th place, respectively. Both regions earn A grades in the Social domain, but are left with C grades in the Economy category. The three metro regions that follow in the rankings—**Seoul**, **Rotterdam**, and **Montreal**—also get higher grades in Social than in Economy. On the other hand, the 15th ranked metro region—**Houston**—does much better in the Economy category, helping to offset a second-to-last ranking in the Social category.

Finally, the five bottom-ranked metro areas feature three North American metro regions along with one from Asia and one from Europe. **Halifax**, with a B in Social and a C in Economy, finishes in 16th place. **Manchester**, which earns a D grade in Economy and a B in Social, ranks 17th overall. **Shanghai**, which comes in 18th place overall, struggles mightily in the Social domain, ranking dead last, and an A grade in the Economy domain cannot make up for it. **Los Angeles**, with a D grade in Economy and a "B" in Social, finishes 19th. **Miami**, with a last place ranking in the Economy domain and an 18th place ranking in the Social category, is our report's overall last place finisher.

OUR ECONOMIC PICTURE

Greater Vancouver has undergone many changes to produce a diverse economy based on the traditions of the resource sector and transportation, but with newer features of high tech, tourism, finance and insurance, and the information and communications industries.

Ambleside is the North Shore's best beach, especially to watch cruise ships pass under the Lion's Gate Bridge and past Stanley Park | KENNETH J DYCK/PROVINCE OF BRITISH COLUMBIA

(previous page) Vancouver Convention Centre - Floats | TOURISM VANCOUVER/VANCOUVER CONVENTION CENTRE

FOCUS ON GREATER VANCOUVER

Greater Vancouver's ninth place finish in this report's Economy rankings is a testimony to the region's middle-of-the-pack performance. The region boasts healthy port activity and relatively affordable office rents. But the results of this benchmarking study suggest that Greater Vancouver's economy is being held back by other factors. Real GDP per capita in 2013 was less than half that of the indicator's leader, San Francisco, and also trailed that of two other Canadian metro areas, Calgary and Toronto, although it beat Montreal and Halifax. Per capita GDP growth was similarly modest, averaging 0.7 per cent per year between 2009 and 2013. Although this was well below leader Singapore's 3.3 per cent average annual rate, we cannot expect Vancouver to keep pace with the Asian metro areas on this indicator because their economies are at different stages of development. Moreover, the region's growth was tops among the Canadian regions. Greater Vancouver's economy may be hindered by very poor housing affordability, which probably limits its attractiveness to younger workers. (SEE TABLE 5, P29)

Besides its disappointing ranking on the METR, other areas where Greater Vancouver should look for improvement include disposable income and its growth, both of which earned the metro region C grades. In 2011, Greater Vancouver's after-tax income per capita was only about 45 per cent of leader San Francisco's and only about three-quarters of Calgary's. The metro area did match Toronto in this score, though, and it beat Montreal and Halifax. Its per capita income growth, which clocked in at 2.5 per cent on an average annual rate between 2009 and 2013, was well behind leader Shanghai, which boasted explosive growth of 11.9 per cent per year. But, yet again, it is important to keep in mind that Shanghai and the other Asian metro areas in this report (with the exception of Singapore) are at a different stage of development than Greater Vancouver and, as such, this wide gap in growth is expected. Against its Canadian rivals, Greater Vancouver's advance trailed gains in Halifax and equalled Montreal's, but exceeded the pace in Toronto and Calgary.

Future prosperity depends a great deal on the evolution of labour productivity, so close attention

Stand-up paddle boarder with dolphins emerging from the water in Howe Sound, West Vancouver | TOURISM VANCOUVER/ SEWELL'S MARINA

should be paid to the two indicators that focus on this concept: the level of labour productivity and its growth. In level terms, Greater Vancouver ranks 12th and earns a C grade. Greater Vancouver's bottom-half ranking in labour productivity could be explained in part by under-investment in roads and public transit infrastructure, which has created bottlenecks in the movement of goods and people, another area of concern that is revealed in the Social domain.

We estimate Greater Vancouver's output per worker at just below US$74,000, or 60 per cent of front-runner Houston's. Calgary and Toronto both do better—Calgary by a wide margin (it is rated A in this domain), Toronto by a smaller gap (like Greater Vancouver, it is rated C). Halifax and Montreal are also rated C, but their labour productivity levels are both slightly below Greater Vancouver's. Houston and Calgary can largely thank the strong presence of the oil and gas industry, a notoriously capital-intensive sector, for their high productivity levels, something Greater Vancouver can do little about. But other regions also rank highly, including San Francisco, Sydney and Seattle. As such, Greater Vancouver would be best served to draw inspiration from them.

Fortunately, Greater Vancouver's productivity growth performance tells a happier story. It earns a B grade and places eighth, beating all other Canadian metro areas. From 2009 to 2013, labour productivity growth averaged 1.4 per cent per year in Greater Vancouver. On a negative note, this is only about a third of that in indicator-leader Shanghai, whose labour productivity growth averaged 3.9 per cent annually.

Greater Vancouver's labour market is average. Its job gains and its unemployment rate are both middle-of-the-pack. It is rated B in the employment growth category over the past five years. Its numeric value here was only about one-third that of indicator-leading Singapore and trails the advance in all the other Canadian metro areas. Its unemployment rate, for which it gets a C, was high by Asian standards, although it was below the rate in all Canadian areas except Calgary.

If a burgeoning high-tech sector foreshadows a bright economic future, Greater Vancouver's looks modest, at best. Despite being Canada's leader,

The region's Canada Line provides a modern rapid-transit link to YVR | DOMINIC SCHAEFER

Greater Vancouver's venture capital investment as a share of GDP is dwarfed by San Francisco's and the share that high-tech jobs make up of total employment is given a C, behind both Montreal and Toronto. This suggests that while capital is now becoming available, Greater Vancouver has yet to build a full high-tech ecosystem. According to the Vancouver Economic Commission, Vancouver's high-tech sector features three (Slack, Hootsuite, and Avigilon) of Canada's four tech start-ups valued at more than $1 billion, employs more than 75,000 tech professionals, and generates more than $23 billion in revenue and $15 billion in GDP. But local entrepreneurs are said to still struggle to attract top-flight talent, including experienced financial officers and engineers, to what is perceived to be a "second-tier" market.

The region also has a small market size, which measures the total income of the population within a 500-mile radius of the metro area. A small market size makes it more difficult for local businesses to realize economies of scale. Specifically, Greater Vancouver gets a D grade in the market size indicator and trails all Canadian metro areas except Calgary. Toronto's market is nearly eight times the size of Greater Vancouver's, while Montreal's is six times larger. Both Toronto and Montreal benefit from their proximity to major markets in the U.S. Northeast, particularly Boston, New York, Philadelphia, and Washington. In contrast, the markets around Greater Vancouver, like Seattle, Portland and Victoria, are much smaller. Because of Greater Vancouver's small market size, it means the region has to be even more competitive and productive than its competitors to make up for the fact that major markets are farther away. Indeed, in an open economy like Canada's, businesses can still realize economies of scale through trade with foreign markets.

Greater Vancouver's performance in tourism is middle-of-the-pack. Vancouver receives just over 1.9 million international visitors annually, about 10 per cent of Hong Kong's and Singapore's total. These two cities each boast over 20 million international visitors per year. As such, they are both treated as outliers in this indicator. Against this backdrop, Greater Vancouver is ranked 11th and gets a C grade. Moving up to a B grade seems unlikely for Greater Vancouver; Seoul, the lone B-rated metro region, posts 4.3 million visitors per year. Toronto also attracts more international visitors each year than Greater Vancouver, although it is the only Canadian metro region to do so. Greater Vancouver ranks fifth among the nine North American cities for which data is available.

Greater Vancouver fares slightly better in attracting international association meeting participants. It is ranked eighth for this indicator and is given a C grade. To move up to a B would require effort, because Greater Vancouver trails Hong Kong—the only B-rated metro region—by roughly one-third. It also trails Toronto by 42 per cent, although it edges out Montreal. Still, Greater Vancouver beats such U.S. sun spots as Miami and Los Angeles, both by wide margins.

When looking at the five indicators that assess the health of a metro region's ports and airports, they suggest that Greater Vancouver does quite well. Among these indicators, Greater Vancouver's best result is in port cargo tonnage, where it ranks third and gets a B grade. Still, its GDP-adjusted volumes trail those of second-place Singapore by nearly 40 per cent and exceed fourth-place Shanghai's by only three per cent. Greater Vancouver also does relatively well on port container throughput, ranking fifth and earning a C grade, although it is far outstripped by those of the four regions slotted ahead of it. Rotterdam and Singapore are in a category by themselves, with Shanghai and Hong Kong making up a second tier. Nonetheless, the Port of Vancouver is the highest-ranked North American port measured by this indicator.

Greater Vancouver's cruise market also tells a positive story. The region is Canada's most popular cruise ship home port, receiving nearly two times as many cruise ships as Halifax, the next ranked Canadian metro area. Greater Vancouver is also the second most popular West Coast cruise ship port in North America, receiving only 31 fewer ships than leader Los Angeles in 2014. However, despite this strong performance, Greater Vancouver gets only a C for this indicator, but that is primarily because of Miami's and Barcelona's unmatched performances. Greater Vancouver would have to triple the number of cruise vessel calls to match Barcelona, this indicator's last A-rated metro area.

Activity at Greater Vancouver's airport is more middle-of-the-pack. For inbound airline seat per capita capacity, the region ranks 10th and receives a C grade. But at 4.9 seats per capita, it is well within striking range of such B-rated regions as Houston (5.0 seats per capita), Hong Kong (5.5), and Sydney (5.5). Moreover, the city's score is higher than that for Toronto and Montreal, its main Canadian competitors. It also ranks above Los Angeles, home to Los Angeles International Airport (LAX)—the fifth-busiest airport in the world by passenger traffic. But as our results show, Los Angeles' performance in this indicator is less impressive than Greater Vancouver's in per capita terms.

Finally, Greater Vancouver does slightly better in inbound airport cargo tonnage capacity per $1 million of GDP, coming in ninth place. At four tonnes of cargo per $1 million of GDP in 2014, the airport's cargo capacity pales in comparison with such heavyweight air hubs as Manchester, Hong Kong and Seoul, where GDP-adjusted freight capacity exceeds 10 tonnes. Still, Greater Vancouver is the second-ranked North American metro area measured by this indicator, beating all four airports on the U.S. west coast.

ECONOMY

CHAPTER SUMMARY

- Asian metro regions (Singapore, Hong Kong and Shanghai) and North American metro regions (Calgary, Seattle, Houston and San Francisco) dominate the top of the field in the Economy category.
- Greater Vancouver places ninth and earns a B grade.
- Greater Vancouver performs well on most of the transportation-oriented indicators, confirming its status as a transportation gateway.
- Greater Vancouver's outcomes on indicators that measure general economic performance are less impressive.
- Areas of particular concern for Greater Vancouver include low productivity levels, low per capita after-tax incomes and high marginal tax rates on capital for businesses.
- Los Angeles, Manchester, and Miami rank at the bottom, with all earning an overall D grade.

The 21 indicators in the Economy category are designed to portray a broad cross-section of economic performance with the goal of determining each region's relative attractiveness to both business investment and highly skilled workers. (Of course, workers also base their location decisions on quality of life, which is the subject of the next chapter.) In particular, most indicators attempt to gauge a metropolitan area's current economic and wealth performance: these include real gross domestic product (GDP) per capita, after-tax income per capita, labour productivity (real GDP per worker), employment and the unemployment rate, market size and various indicators of the cost of doing business. Five indicators attempt to gauge a metropolitan area's transportation performance. It is well known that improvements in transportation infrastructure can help boost both trade and general economic performance. Moving goods and people in a timely and efficient manner decreases costs and lifts productivity for a variety of economic agents. In this context, the five transportation

1.9%

per capita GDP growth between 2010 and 2014

Agriculture and international trade sit side by side in Delta | COLIN JEWELL

indicators are designed to assess a cross-section of freight and passenger movements.

Greater Vancouver's location on Canada's West Coast, facing the burgeoning Pacific Rim, merely enhances transportation's local importance. Estimates suggest that transportation and warehousing generates just over six per cent of Greater Vancouver's real GDP, well above the four per cent national figure. Most other regions selected for this benchmarking analysis also qualify as transportation-sector gateways.

The Economy category also includes a forward-looking wealth indicator—venture capital investment per US$1 million of GDP—as well as two tourism indicators—number of international visitors and number of participants in international association meetings. Tourism activity provides significant economic benefits to the host region, as it boosts consumer spending, and generates employment opportunities in a variety of economic sectors, such as wholesale and retail trade and personal services. Tourists, through their purchases, also generate tax revenues for the host economy that can be used to fund infrastructure projects and government-provided services. Data for the key economic indicators is, for the most part, drawn from a base year of 2013 or 2014 to allow for comparability among all metro regions. Where dollar values are used in level terms, they are reported in $US PPP (purchasing power parity).

Asian metros earn high grades in the Economy rankings: Singapore, Hong Kong and Shanghai occupy the top three spots, with Seoul also ranked in the top 10. Sydney finishes in the middle of the pack in 11th place. U.S. metros also perform well, with Seattle and San Francisco—high-tech centres—and Houston—an oil and gas industry hub—ranking in the top 10. Unquestionably, Houston has greatly benefited from being America's oil and gas hub. However, given that this benchmarking analysis is backward-looking, the results do not take into account the impact of the severe drop in crude oil and gas prices. Indeed, Houston's recent economic performance and near-term outlook are much less impressive. Nevertheless, American centres typically have high GDP per capita and after-tax income per capita. In other words, these regions have high standards of living. They also rank highly in productivity and the venture capital indicator. They perform less well measured by employment growth and the unemployment rate.

The results for the Canadian metro areas are mixed. The top Canadian performer is Calgary, which ranks fourth with an A grade. But similar to Houston, Calgary's economy has weakened significantly in the face of steeply lower energy prices—something that the rankings contained in this Scorecard do not reflect. Greater Vancouver is Canada's lone B-rated metro region, ranking in 9th place. The remaining metro areas—Toronto (13th), Halifax (14th), and Montreal (16th)—all earn C grades.

The results for the European metro areas are equally mixed. Copenhagen is Europe's top performer, ranking 6th with a B grade. Rotterdam and Barcelona earn C grades, with the former placing 12th and the later ranking 15th. Finally, Manchester struggles with a 19th place finish and a D grade.

ECONOMY CATEGORY INDICATORS

INDICATORS

- Real Gross Domestic Product (GDP) per Capita
- KMPG's Total Tax Index
- Real GDP per Capita Growth
- Marginal Effective Tax Rate on Capital Investment for businesses
- Labour Productivity
- Average Downtown Office Rents
- Labour Productivity Growth
- Venture Capital Investment per US$1 Million of GDP
- Disposable Income per Capita
- Market Size
- Disposable Income per Capita growth
- Number of International Visitors
- Employment Growth
- Number of Participants in International Association Meetings
- Unemployment Rate
- Inbound Airplane Seat Capacity per Capita
- Inbound Airport Cargo Tonnage Capacity per $1 Million of GDP
- Port Container Throughput per $1 Million of GDP
- Port Cargo Tonnage per $1 Million of GDP
- Number of Cruise Vessel Calls
- High-tech Employment (share of total employment)

WHO'S BEST?

SINGAPORE is the Economy domain's overall leader. (SEE TABLE 2, P24) The area's ranking is buoyed by first-place finishes on three indicators. It is top-ranked for real GDP per capita growth, employment growth, and its unemployment rate (an astonishing two per cent). The region also earns A grades for its inbound airport cargo tonnage capacity, its port container traffic and its port cargo tonnage. Singapore's strong performance in both port indicators is not surprising, given it is home to the second-busiest port in the world .The city-state is also a major tourism hub, earning A grades on the two tourism indicators included in the Scorecard. Singapore boasts over 20 million international visitors annually, more than three times as many as third-place finisher Shanghai. On the other hand, the metro area suffered a D grade for its market size—it is surrounded by relatively poor countries and earns C grades for its real GDP per capita, its after-tax income per capita, and its level of labour productivity. Singapore's number of cruise vessel calls was also rated C, although it ranked third on this indicator. Data for four indicators—disposable income per capita growth, total tax index, venture capital investment as a share of GDP and marginal effective tax rate on capital investment for businesses—was unavailable for Singapore.

HONG KONG is the second-best metro area in economic performance and also earns an A grade. It is top-ranked for its number of international visitors and also earns A grades for its unemployment rate, for its inbound airport cargo tonnage capacity and for its port container throughput. Hong Kong achieves high marks on many of the transportation-oriented indicators despite experiencing fierce competition from other cities on the Pearl River Delta, which are steadily strengthening as logistical hubs. Indeed, two cities neighbouring Hong Kong—Shenzhen and Guangzhou—rank among China's largest ports. In 2013, Shenzhen handled more container traffic than Hong Kong, while Guangzhou handled more port cargo. Hong Kong's seven B scores came in real GDP per capita growth, after-tax income per capita growth, employment growth, labour productivity levels and its growth, its inbound aircraft seat capacity, and its number of participants in international association meetings. On a negative note, Hong Kong received five C grades as well as two D grades for its number of cruise vessel calls and its sky-high downtown office rents, which are double those of its closest competitor. Hong Kong was missing data on three indicators: its total tax index, its marginal effective tax rate on capital investment for businesses and its venture capital investment per US$1 million of GDP.

3rd

Greater Vancouver's ranking out of 12 compared metropolitan areas of the KPMG's total tax index

16th

Greater Vancouver's ranking out of 19 compared metropolitan areas on market size

SHANGHAI ranks third and also receives an A grade. Shanghai is top-ranked in after-tax income growth and labour productivity growth, and also earns A grades for its real GDP per capita growth (reflecting the area's low starting point), its port container throughput, and its volume of international visitors. However, the metro area's ranking is pulled down by three D grades. Indeed, it comes in last among all our regions in real GDP per capita, after-tax income per capita, and labour productivity. Shanghai gets an additional D grade for its per capita number of inbound airline seats. Despite being home to the busiest port in the world, Shanghai only gets a B grade for its port cargo tonnage when scaled to the size of its economy. Data on three indicators—venture capital investment per US$1 million of GDP, marginal effective tax rate on capital investment for businesses and total tax index—was missing for Shanghai.

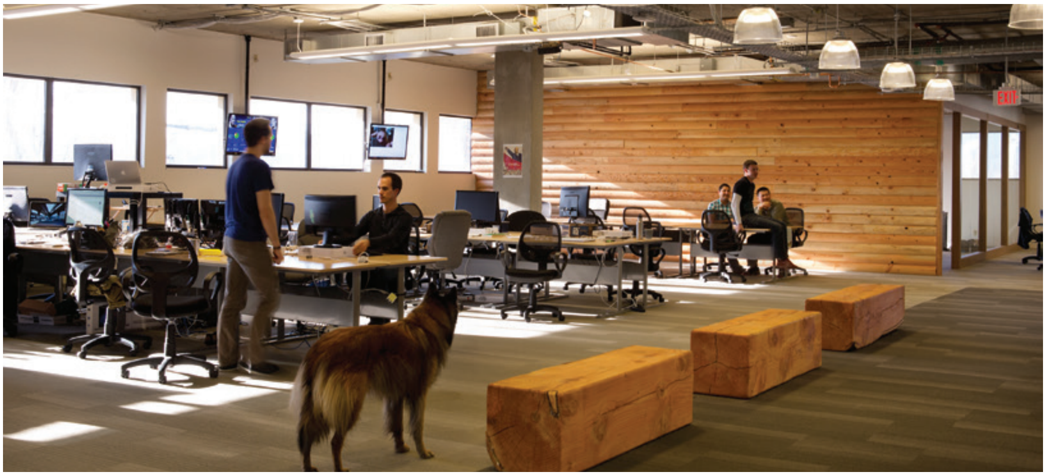
CALGARY, Canada's petroleum capital, was the top-rated Canadian metro area, posting an A grade and placing fourth. Its ranking is buoyed by A grades in real GDP per capita, labour productivity levels, employment growth, marginal tax rate on capital investment and downtown office rents. But given that this is a backward-looking ranking, Calgary's performance in this domain does not fully reflect the impact of the collapse in energy prices that started in late 2014. Indeed, the Conference Board of Canada estimates that Calgary's real GDP fell by 2.4 per cent in 2015 and further declines are anticipated for 2016—something that the rankings contained in this Scorecard do not reflect. Also, despite its high overall finish in the Economy category, there were still disappointments, including D scores for its venture capital investment, its international visitors, its airport cargo tonnage capacity and its market size. Calgary is unique in this report for being the only comparator region without a seaport. As such, data for port container throughput, port cargo tonnage, and cruise vessel calls was unavailable for Calgary. Calgary was also missing data on its total tax index and its number of participants in international association meetings. Similar to Houston, Calgary has benefitted greatly from being Canada's oil and gas industry hub.

SEATTLE enters the ranking in fifth place and is our first B-rated city. While Seattle does not rank first in any of the Economy indicators, it earns A grades in real GDP per capita, after-tax income per capita, labour productivity levels, high-tech employment share (unsurprising since it is home to the headquarters of tech giants Microsoft and Amazon), and downtown office rents. However, these were partially offset by D grades given for its market size, its cruise vessel calls, its port container traffic, its port cargo tonnage, and its marginal tax rate on capital investment for businesses. Seattle was rated B in four indicators and C in six indicators. Data for the number of international visitors was missing for Seattle.

SOCIAL

CHAPTER SUMMARY

- Six metro areas earn A grades in the Social category: Barcelona, Copenhagen, Sydney, Portland, Toronto and Seattle.
- Each of the top six regions has its own strengths that make it socially attractive, although they all tend to be characterized by low homicide rates, good air quality and many residents employed in cultural occupations.
- Greater Vancouver places seventh, making it the highest B-rated region, thanks to a high foreign-born population share, low homicide rates and good air quality.
- Greater Vancouver's major drawbacks include its poor housing affordability and its proportion of the population aged 25 to 34 (it received D grades for them), and long commute times.
- The bottom three regions—Miami, Houston and Shanghai—share some common vulnerabilities: few residents with university degrees, relatively unequal income distributions and long commute times.



Hootsuite Media Inc.'s Vancouver office, designed by SSDG Interiors Inc. combines a rustic cabin motif with an industrial look in a workspace that encourages creativity and staff connections | INTERIOR DESIGN INSTITUTE OF BC.

The Social category contributes to our understanding of how 20 metro areas are performing on 11 measures of a region's socio-economic, environmental, and quality-of-life attributes. These measures underpin a region's ability to lure educated, creative and diverse people. Such individuals are much in demand to fill metro regions both now and in the future. These people will consider regional quality of life attributes, such as those evaluated here, as they choose where to locate. Such yardsticks include housing affordability, income distribution, the share of cultural workers and homicides. Transportation issues are assessed by comparing commute times in each area and the proportion of its employed labour force that does not drive an automobile to work. The area's environment is assessed by its air quality, how moderate its temperature is,and how many days of sunshine it typically receives.

There is an important link between the Economy and Social Performance categories that needs to be highlighted. A high quality of life can only be sustained by a strong economy that generates the tax revenues needed to pay for a robust social safety net. A strong economic performance is a prerequisite for a strong social one.

Two European metro areas, Barcelona and Copenhagen, are rated the most attractive according to our criteria, earning two of the domain's six A grades. (SEE TABLE 4, P28) Sydney finishes a strong third. Three North American metro areas— Portland, Toronto, and Seattle— complete the list of the top six A-rated jurisdictions. The 11 B-rated metro regions are a disparate group that includes six from North America, four of which are Canadian. The two C-graded regions are both American: Miami and Houston. Shanghai languishes in last place, earning the lone D grade.

While European and Canadian regions top the list with As and Bs, the scores within these two geographic groupings are relatively varied. Among the Canadian CMAs, Toronto, Greater Vancouver, and Montreal rank in the top 10, Calgary places in the middle of the pack, and Halifax disappoints with a 15th place finish. Still, all five CMAs share some common traits. They all tend to have low homicide rates (four As and one B), good air quality (all are rated A) and (surprisingly) decent housing affordability (Greater Vancouver gets a D, the others A or B). On a more negative note, they do less well for the proportion of their population aged 25-34 (all get Ds), that have a university degree (Cs and Ds), and that takes non-car transportation to work (Cs and Ds).

European metro areas draw much of their strength from having comparatively equal income distributions (three As and one B), low homicide rates (As and Bs), and a good share of their population employed in cultural occupations (one A and three Bs). However, their scores on most other indicators are more mixed.

7th

Greater Vancouver's social ranking, making it the highest B-rated region, thanks to a high foreign-born population share, low homicide rates and good air quality

The six U.S. metro areas (Portland, Seattle, Los Angeles, San Francisco, Houston, and Miami) frequently have high homicide rates, low non-car usage among commuters and relatively unequal income distributions. Indeed, all three D-graded homicide metro areas (San Francisco, Houston and Miami), are from the U.S., six of the eight D-graded "non-car" regions come from that country (all U.S. areas get a D) and our three most unequal regions in terms of income distribution are there too (San Francisco, Los Angeles and Miami). Moreover, the unequal income distributions observed in the United States appear likely to persist. A 2010 report identified much lower intergenerational economic mobility in the United States, largely due to lower mobility at the very top and the very bottom of the earnings distribution. The study also found that the configuration of family, labour market, and public policy investment and support for children placed disadvantaged American children in much more challenging circumstances.

Portland and Seattle, the lone U.S. metro areas to earn an overall A grade, offset poor results in foreign-born population, non-car usage, and income distribution with relatively strong performances in other measures: clean air, number of cultural workers, share of the population with a university degree, and climate. San Francisco does well in these measures too, but its overall score is dragged down by relatively poor housing affordability.

The four Asian metro regions (Singapore, Seoul, Hong Kong and Shanghai) are a diverse group, meriting three Bs and one D. Still, some common threads emerge. None has a particularly high proportion of those aged 25-34 —data for Shanghai is missing but the other three are graded D—or of those born abroad—again all are graded C or D. All Asian metro areas are rated D for the proportion of university-educated adults. On the positive side, they can boast very low homicide rates; all regions merit an A on this measure. The regions also have high proportions of non-car commuters–all regions get an A on this measure, too.

SOCIAL CATEGORY INDICATORS

INDICATORS

- Proportion of Population 25 to 34 years old
- Housing Affordability
- Proportion of Population that is Foreign Born
- Travel to Work: public transit, walking, and other non-auto commuting
- Proportion of Population, Age 25 and Over, with at Least a Bachelor's Degree
- Commuting Time of a Roundtrip to Work
- Proportion of Population that is Employed in Cultural Occupations
- Income Inequality
- Comfortable Climate Index
- Air Quality
- Homicides (Rate per 100,000 Population)

WHO'S BEST?

BARCELONA, our top-ranked metro area in the Social category, is also Spain's second-most populated region with close to five million residents in its metropolitan area. Founded by the Romans, it remains a major cultural and economic centre in southwestern Europe. One of the region's three "A" grades was awarded for its "comfortable-climate index." The Mediterranean-coast region's temperatures are generally moderate and it rarely sees frost, allowing it to emerge at the top of this indicator. A low murder rate and a relatively equal income distribution account for Barcelona's two other A grades. The region earns B grades for the proportion of its adult population which is university educated— it ranks in the top five metro areas on this measure— and for "the proportion of its population employed in cultural occupations". On the other hand, Barcelona's relatively low proportion of those aged 25-34 saddles the area with a D grade for this measure. Barcelona lacks data for its housing affordability and its proportion of non-car commuters.

COPENHAGEN is our second-rated area in the Social category. The ancient Danish capital sits astride a bi-national metro area and is the cultural, economic and social centre of Denmark. Like Barcelona, it received a total of three A grades, starting with "the proportion of its population of its population with at least a bachelor's degree" (it is second-ranked here and nearly 40 per cent of its adult population has a bachelor's degree). This mark is unsurprising, given that Copenhagen boasts at least four post-secondary institutions with at least 10,000 students and is said to host more than 90,000 students in total. The region also gets A scores for the the proportion of its population employed in cultural occupations (it is again second-ranked, coming behind Los Angeles), and for its good homicide rate. Copenhagen's only D grade was in the comfortable climate index, an issue it can do little to solve. The region's relatively northern location and position near the Baltic Sea are said to give it somewhat unstable weather. Copenhagen was missing data for two indicators—housing affordability, and travel to work by transit, walking, and other non-auto commuting.

SYDNEY is our third-ranked metro area in Social performance. One of the region's highest marks is for the proportion of its population that is foreign-born. Australia is a country of immigrants and Sydney is no exception with four of every 10 residents claiming a birthplace abroad. The region also scores an A for its good air quality, an indicator in which it trails only Greater Vancouver. But one indicator in particular sets Sydney apart: the proportion of the population aged 25 to 34. With one-third of its population aged 25 to 34, Sydney is the "youngest" of the Scorecard's 19 comparator regions, and earns the lone A grade on this indicator. However, the metro area suffers from long commute times, and from a low proportion of Bachelor degree holders among its adult population; both earn it D grades. Data for all indicators was available for Sydney.

D

the grade assigned to Greater Vancouver's housing affordability and the proportion of the population aged 25-34

PORTLAND is our study's highest-ranked U.S. region and ranks fourth. The region's moderate Pacific Northwest climate earns it an A grade in our comfortable climate index, while its good housing affordability and low air pollution also merit A grades. On a negative note, Portland received D scores for its low foreign-born population share, and its workers' low use of non-car transportation for commuting. Data for all categories was available for Portland.

TORONTO is the top-ranked Canadian metro area and comes in fifth place. Canada's largest region is a poster-child for multiculturalism, featuring the highest proportion of foreign-born residents among the regions in this report. Nearly half of all Torontonians were born outside Canada. The metro area also gets A grades for its low homicide rate and its low air pollution. More negatively, Toronto got Ds for the low share of its population aged 25-34 and for its lengthy commute times. Data describing all categories was available for Toronto.

GREATER VANCOUVER'S OUTLOOK BRIGHT BUT CHALLENGES REMAIN

Greater Vancouver's near-term economic outlook appears bright. Its many traded clusters seem poised to take advantage of growing trade, in both goods and services, with Asian markets, while a low-flying loonie should also help it leverage economic activity with a healthy U.S. economy. However, the region's longer-term performance will depend on the ability of its leaders to deal with seven important challenges revealed in our study.

CHALLENGE 1
LACK OF INVESTMENT IN PUBLIC TRANSIT AND ROADS

Long commute times are adding to Greater Vancouver's difficulties in attracting high-end talent. Failure to address deteriorating housing affordability and inadequate investment in transit and road infrastructure could keep talented people and business investment away.

The benchmarking analysis showed that Greater Vancouver's performance in this area is relatively poor—it records C grades for the average commute time to and from work and for the proportion of the workforce that non-car commutes. Therefore, cementing Greater Vancouver's status as a Canadian economic leader requires a commitment to invest in its public transit and road infrastructure.

Indeed, infrastructure investment has been shown to influence private-sector competitiveness, especially if it involves reducing commute times for employees and for trucking goods throughout the region. In this regard, the Mayors' Council 10-year Vision for Metro Vancouver and the provincial government's 10-year B.C. on the Move plan are steps in the right direction. But a funding solution for these critical plans remains elusive.

CHALLENGE 2
HOUSING AFFORDABILITY

One of the significant challenges facing Greater Vancouver is the deteriorating affordability of housing. Concerns have been raised that foreign investment is a key factor behind skyrocketing home prices, but data to study such claims is lacking since foreign purchases of real estate have not been officially tracked.

Elevated home prices may limit the region's attractiveness to younger people who represent its future. Affordability is a major barrier to retaining and attracting talent and could therefore hinder business investment. While we do not foresee a housing bubble that is about to burst, we cannot completely discount that risk either.

Lack of available land for new residential development is another key factor behind rising home prices. This will be a difficult issue to resolve, given the region is bordered by the Pacific Ocean to the west, the North Shore Mountains to the north, the U.S. border to the south and the Agricultural Land Reserve to the east.

The limited availability of land also threatens to constrain non-residential development. Office rents remain reasonable in comparison to international jurisdictions, but land constraints in the Lower Mainland are putting at risk future expansions at Port of Vancouver—an outcome that could significantly affect the region's competitive advantage as a gateway.

CHALLENGE 3

LAND SCARCITY FOR ENABLING TRADE

Indeed, the supply of vacant land suitable for trade and goods movement could be exhausted within 10 years, based on the inventory of trade-enabling industrial land. Moreover, high house prices and general lot scarcity give developers and municipalities strong incentives to find buildable land anywhere. Waterfront locations, obviously, would be especially desirable, even more so when they are located near the downtown. Land around Vancouver's port has been an attractive target of developers. And, as a few multi-family projects spring up there, more could follow, since the newly arrived residents may then object to being in proximity to the visual and noise impacts associated with industry. Growing pressures on the availability of industrial land will conflict with Greater Vancouver's role as a burgeoning gateway to Asia and the jobs and wealth this trade creates. Denied proximate storage space, companies will be forced to seek other ports to move their goods.

CHALLENGE 4

LOW PRODUCTIVITY LEVELS

Greater Vancouver suffers from relatively low levels of labour productivity, although its recent performance on labour productivity growth has been somewhat encouraging. Along with infrastructure,

Transportation infrastructure is a crucial need for the Greater Vancouver region | PROVINCE OF BRITISH COLUMBIA

human capital is another key determinant of labour productivity—a fully employed, highly educated or highly skilled workforce will invariably generate higher incomes.

Greater Vancouver can claim to be one of the best North American metro areas when it comes to labour productivity growth. With 1.4 per cent growth between 2009 and 2013, Greater Vancouver ranks behind only Portland and Houston, earning a B grade. But Greater Vancouver disappoints with a C grade when it comes to its productivity level. Indeed, at US$73,600 in output per worker, Greater Vancouver's productivity level is the third-lowest in North America. This suggests that goods and services might be produced in more efficient ways—more could be produced with the same amount of worker effort—allowing for improved income and prosperity.

CHALLENGE 5
ROOM TO IMPROVE ON EDUCATIONAL ATTAINMENT RATES

To boost its labour productivity levels, Greater Vancouver could put greater emphasis on advanced educational attainment, as a fully employed, highly educated or highly skilled workforce will invariably generate higher incomes.

Greater Vancouver boasts many post-secondary institutions that draw students from outside the province and the country. Post-secondary institutions also funnel graduating students into the private sector, as many who study in Vancouver choose to work in the region or elsewhere in B.C. after completing their degrees. Given that employment prospects have become increasingly tied to possessing more education, thanks to the rise of the knowledge economy, regions with high-quality post-secondary educational institutions have an advantage over those that do not. However, despite the many post-secondary institutions, Greater Vancouver earns only a C grade in terms of its population 25 or over with a bachelor's degree or higher. The region also may be disadvantaged on this benchmark by its greyer population—since educational attainment rates have generally increased over time, older generations generally have lower educational attainment—but more work needs to be done to isolate this factor.

Moreover, Greater Vancouver would do well to lift the skills and education of its aboriginal citizens. Across Canada and in Greater Vancouver, aboriginal educational attainment rates are comparably low, leading to high unemployment rates and lower wages in comparison to non-aboriginal populations. According to Statistics Canada's 2011 National Household Survey, the gap in university attainment is particularly wide—in Greater Vancouver, only 14 per cent of aboriginals had at least a bachelor's degree in 2011 compared to 34.5 per cent of non-aboriginals.

Improving the aboriginal population's educational attainment rates not only would improve their economic well-being, but would have the added benefit of lifting Vancouver's employment rates and the region's economic potential.

CHALLENGE 6

HIGH MARGINAL TAX RATES ON CAPITAL FOR BUSINESSES

Fundamental to productivity growth and competitiveness is a system of fiscal and tax incentives that promotes efficiency and fosters the entrepreneurship that will result in a growing and innovative economy. Unfortunately, Greater Vancouver's performance is mixed on tax competitiveness. True, it earns an A on the "total tax index," which is a measure of the total corporate taxes paid expressed as a percentage of total taxes paid by corporations. Greater Vancouver's success on this measure is in great part thanks to Canada having much lower statutory labour costs (payroll-based taxes) than the U.S.

But British Columbia ranks as the second least competitive tax jurisdiction for capital investment in Canada. This is Greater Vancouver's sixth challenge to its competitiveness. At 27.5 per cent, its marginal effective tax rate on capital investment for businesses is over three percentage points higher than that of eight of the 10 Canadian provinces Only Manitoba performs slightly worse while Saskatchewan also ranks near the bottom. There is a simple explanation for British Columbia's, Manitoba's and Saskatchewan's status as outliers in tax competitiveness. They are the only three Canadian provinces that still levy an unharmonized retail sales tax, while the remaining provinces have moved to a value-added consumption tax system by harmonizing their sales tax with the federal GST. (Alberta has no sales tax.) The problem with retail sales taxes—or cascading sales taxes—is that they are levied on many products that are used as inputs in the production of other goods, resulting in higher

7

principal challenges have been identified in the Greater Vancouver Scorecard

effective tax rates on the final goods. This stands in stark contrast to value-added taxes, which are levied on the sale of final goods. Firms receive a tax refund for the taxes paid by their suppliers—avoiding taxing intermediate goods used as business inputs. In effect, a retail sales tax results in a significant tax on capital investments.

CHALLENGE 7

ATTRACTING HEAD OFFICES

Greater Vancouver also performs relatively poorly when it comes to attracting head offices. Head office activity is an important measure in evaluating a region's attractiveness to businesses. In particular, attracting head offices provides well-paying jobs and can stimulate local business investment. In 2013, Greater Vancouver had 242 head offices, ranking far below Toronto and Montreal, and only slightly ahead of Calgary. Results for employment per head office are even more disappointing, as Vancouver ranks far behind Toronto, Calgary and Montreal.

Given that Greater Vancouver is already home to almost all of the head offices of large B.C.-based corporations—including mining, forestry, and energy companies whose business assets are located in other parts of the province—any additional head offices would have to come from Greater Vancouver attracting those of out-of-province (or out-of-country) companies. An important step in this direction was taken in early 2015 with the creation of HQ Vancouver—an investment partnership between the government of Canada, the province of British Columbia and the Business Council of British Columbia aimed at luring Asian businesses into relocating their head offices to Vancouver. It has had early success in attracting headquarters to relocate, including Aikang Capital Inc. and Sony Pictures Imageworks.

MOVING FORWARD

REGIONAL COORDINATION

Addressing these challenges will be extremely difficult, given their complexity and the local government fragmentation within Greater Vancouver.

Regions are the new unit of economic organization, and the business community must play a key role in their development. Cities and municipalities are increasingly becoming the most important players in our economy. However, it isn't necessarily the municipality that has created this new economic focus—it is the region. Only regional thinking can tackle the social and economic challenges facing Greater Vancouver and ensure our global competitiveness.

Moreover, many of these challenges are interconnected, so they would need to be addressed simultaneously. They also tend to be regional in scope and could not be successfully addressed without the partnership of Metro Vancouver, the province, First Nations and the federal government.

A key cause of these challenges is division between regional stakeholders. Therefore, a prerequisite for successfully addressing these challenges would be greater regional co-ordination among the municipalities that make up Greater Vancouver. For example, poor transit infrastructure and low productivity levels are not problems that are specific to a single municipality— they affect the entire Greater Vancouver region. Having many governments in a single metropolitan area naturally creates competition for limited resources.

If municipalities compete without strategic cooperation, economic growth is limited and slow. However, if cities choose to work together to leverage their unique economic traits across a region, their growth can be compounded, resulting in a robust regional economy. Studies have shown that economic growth in urban centres and surrounding suburbs are positively correlated. When all jurisdictions thrive, the region thrives, but even if only some jurisdictions struggle, the region struggles.

Local governments in metropolitan areas need to work together to maximize benefits in our region. When the region has to protect itself from each other, the whole region suffers. When trust and cooperation thrive internally, the region pulls together and grows stronger as a result. In places

The False Creek district features a healthy blend of recreation and retail to complement the residential development | DOMINIC SCHAEFER

where regional economic development has been extraordinarily successful, cooperation has often been led by the private sector.

In Greater Vancouver, we are just beginning to scratch the surface of what it means to work as a region. While a regional district system that brings together local governments has been in place since the 1960s, there is still limited co-operation that takes place outside of long-established service agreements. The municipalities in the Greater Vancouver region still act individually when lobbying provincial and federal governments and then compete internally for development instead of leveraging the successes of their neighbours. The municipalities should act as a unified external voice, and work together internally, as we know we are capable of cooperation. We saw a great regional effort recently during the 2010 Winter Olympics and the unprecedented agreement among the region's mayors in 2015 on the Mayors' Council Plan on regional transportation investments. While these milestones add momentum to regional co-operation in Greater Vancouver, there is still much work to be done to maximize our regional economy. There are hopeful signs in recent efforts by the regional mayors to pursue this work.

When a coordinated approach to economic development planning is undertaken, the odds of success are increased. Greater co-operation allows the region to present a united face to the rest of the world. Instead of competing for foreign investment dollars, jointly pursuing investment attraction opportunities together would not only increase the chances of success, but it would also greatly reduce duplication of effort and resources. Not only would regional cooperation increase the chances that these issues will be resolved, it would also allow the Greater Vancouver metro region to better leverage its competitive strengths. Organizations like the Greater Vancouver Economic Partnership, the Greater Vancouver Economic Council, and Metro Vancouver Commerce are all notable examples of efforts to better align the region economically. Unfortunately, these efforts did not bear much fruit as all of these agencies were disbanded within two to three years of their creation, mostly due to a lack of buy-in from stakeholders.

Leadership should not have to be solely the responsibility of government to facilitate regional collaboration. Future success will require a long-term commitment from a broad spectrum of regional stakeholders—senior levels of government, private sector, and academia—to better coordinate economic development. Stakeholders from across all spectrums of Greater Vancouver's economy have a role to play in leading cooperative efforts.

GREATER VANCOUVER'S PLACE IN THE WORLD

OVERALL RANKING

How metropolitan areas compare on general Economy and Social indices

CMA	OVERALL	ECONOMY	SOCIAL
Singapore	1	1	16
Copenhagen	2	6	2
Hong Kong	3	2	12
Calgary	4	4	11
Seattle	5	5	6
Barcelona	6	15	1
Sydney	7	11	3
San Francisco	8	8	10
Greater Vancouver	**9**	**9**	**7**
Toronto	10	13	5
Portland	11	17	4
Seoul	12	10	14
Rotterdam	13	12	13
Montreal	14	16	9
Houston	15	7	19
Halifax	16	14	15
Manchester	17	19	8
Shanghai	18	3	20
Los Angeles	19	18	17
Miami	20	20	18

ECONOMY RANKING

How metropolitan areas compare on specific Economy indices

CMA	OVERALL	REAL GDP PER CAPITA	REAL GDP PER CAPITA GROWTH (Five-Year Average)	AFTER-TAX INCOME PER CAPITA	AFTER-TAX INCOME PER CAPITA GROWTH (Five-Year Average)	PRODUCTIVITY	PRODUCTIVITY GROWTH (Five-Year Average)	EMPLOYMENT GROWTH (Five-Year Average)	UNEMPLOYMENT RATE	HIGH-TECH EMPLOYMENT (Share of Total Employment)
Singapore	1	12	1	10	—	14	3	1	1	4
Hong Kong	2	8	6	9	2	8	6	8	2	11
Shanghai	3	20	2	20	1	20	1	4	3	7
Calgary	4	4	10	8	11	4	10	3	6	10
Seattle	5	3	9	2	12	5	8	16	7	2
Copenhagen	6	9	14	11	6	13	11	19	14	3
Houston	7	2	4	3	7	1	5	2	5	16
San Francisco	8	1	15	1	17	3	17	10	8	1
Greater Vancouver	**9**	**14**	**7**	**13**	**8**	**12**	**7**	**12**	**10**	**9**
Seoul	10	17	3	18	4	18	9	13	4	—
Sydney	11	6	13	7	3	2	16	7	9	14
Rotterdam	12	10	19	17	13	9	14	18	19	15
Toronto	13	13	12	12	10	10	13	5	17	8
Halifax	14	15	8	14	5	16	12	9	11	13
Barcelona	15	18	16	15	16	15	2	20	20	19
Montreal	16	16	11	16	9	17	15	6	18	5
Portland	17	5	5	6	14	6	4	17	12	6
Los Angeles	18	7	18	4	15	7	19	14	16	12
Manchester	19	19	17	19	19	19	18	15	15	17
Miami	20	11	20	5	18	11	20	11	13	18

— DATA NOT AVAILABLE

SOCIAL RANKING

How metropolitan areas compare on specific Social indices

CMA	OVERALL	PROPORTION OF POPULATION 25 TO 34 YEARS	PROPORTION OF POPULATION THAT IS FOREIGN BORN	PROPORTION OF POPULATION, AGE 25 AND OVER, WITH AT LEAST A BACHELOR'S DEGREE	PROPORTION OF POPULATION THAT IS EMPLOYED IN CULTURAL OCCUPATIONS	COMFORTABLE CLIMATE INDEX	HOMICIDES (Rate per 100,000 Population)	AVERAGE TRAVEL TIME TO WORK (Minutes)	TRAVELLED TO WORK, PUBLIC TRANSIT, BIKING, WALKING (Proportion of Working Population)	HOUSING AFFORDABILITY (Median House Prices as a Ratio of Median Household Income)	GINI COEFFICIENT	AIR POLLUTION (Particulate Matter mg/m3)
Barcelona	1	16	12	4	9	1	6	6	—	—	3	13
Copenhagen	2	2	13	2	2	20	5	2	—	—	6	15
Sydney	3	1	3	18	8	9	16	17	9	14	5	2
Portland	4	6	14	5	7	6	11	5	14	6	12	3
Toronto	5	14	1	6	13	15	7	16	6	10	9	4
Seattle	6	4	11	3	6	11	15	11	13	8	13	8
Greater Vancouver	**7**	**7**	**2**	**9**	**10**	**12**	**9**	**10**	**8**	**15**	**11**	**1**
Manchester	8	5	15	11	15	18	13	9	7	5	1	12
Montreal	9	11	8	16	5	19	3	14	5	4	8	9
San Francisco	10	3	6	1	4	2	18	15	10	13	18	7
Calgary	11	12	7	7	18	13	8	7	12	3	10	10
Hong Kong	12	17	17	15	3	10	2	1	1	17	17	18
Rotterdam	13	13	20	14	14	16	14	20	—	—	4	16
Seoul	14	8	18	17	12	7	10	18	2	11	2	19
Halifax	15	19	16	12	17	14	12	3	11	2	7	6
Singapore	16	18	9	19	19	17	1	4	3	7	14	14
Los Angeles	17	10	5	8	1	3	17	13	15	12	19	17
Miami	18	15	4	13	11	8	20	8	16	9	20	5
Houston	19	9	10	10	16	5	19	12	17	1	16	11
Shanghai	20	20	19	20	20	4	4	19	4	16	15	20

OFFICE RENTS (US$ per square foot)	VENTURE CAPITAL INVESTMENT PER $1 MILLION GDP	MARKET SIZE (Income, Billions of Dollars)	INTERNATIONAL VISITORS (000's)	NUMBER OF PARTICIPANTS IN INTERNATIONAL ASSOCIATIONS MEETINGS PER CITY	INBOUND AIRPORT SEATS PER CAPITA	INBOUND AIRPORT CARGO TONNAGE (in tons) per 1 Million GDP	PORT CARGO TONNAGE (in metric tons) per 1 Million GDP	PORT CONTAINER THROUGHPUT (in TEUs) per 1 Million GDP	NUMBER OF CRUISE VESSEL CALLS	MARGINAL EFFECTIVE TAX RATE ON CAPITAL INVESTMENT	TOTAL TAX INDEX
14	—	20	2	3	3	4	2	2	3	—	—
17	—	7	1	7	8	2	5	4	10	—	—
16	—	6	3	10	17	7	4	3	8	—	—
6	10	19	15	—	2	14	—	—	—	3	—
9	3	17	—	11	5	11	13	8	11	15	9
3	—	3	13	2	1	6	11	16	4	6	—
10	2	12	14	19	9	19	7	15	9	17	8
15	1	11	8	13	4	15	18	13	14	12	11
5	**4**	**16**	**11**	**8**	**10**	**9**	**3**	**5**	**7**	**10**	**3**
13	—	8	7	4	19	3	8	14	13	11	—
12	—	18	10	5	7	13	17	12	6	8	12
1	—	1	17	14	20	20	1	1	16	4	—
8	8	2	9	6	13	12	19	18	17	5	2
—	9	13	18	18	6	10	6	6	12	1	1
2	—	9	5	1	12	5	9	9	2	9	—
4	6	5	12	9	18	18	10	10	15	2	4
—	7	15	—	16	14	17	12	17	—	14	7
7	5	10	6	12	16	16	14	7	5	13	10
11	—	4	16	17	11	1	15	19	18	7	5
—	11	14	4	15	15	8	16	11	1	16	6

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YUEN PAU WOO, President, HQ Vancouver

PROJECT MANAGEMENT, Rob MacKay-Dunn, Iqbal Ahmed, Aaron Robinson of the Greater Vancouver Board of Trade


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500
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