A nighttime photograph of a modern urban waterfront in Vancouver. The scene is dominated by several high-rise apartment buildings with illuminated windows, reflecting the city lights. In the foreground, a marina is filled with numerous sailboats docked at a pier. The water is dark, with the lights from the buildings and the pier creating a shimmering reflection. The sky is a deep twilight blue. The overall atmosphere is one of a vibrant, modern city at night.

Dynamics of Economic Change in Metro Vancouver

Networked Economies and
Globalizing Urban Regions

A REPORT PREPARED FOR METRO VANCOUVER

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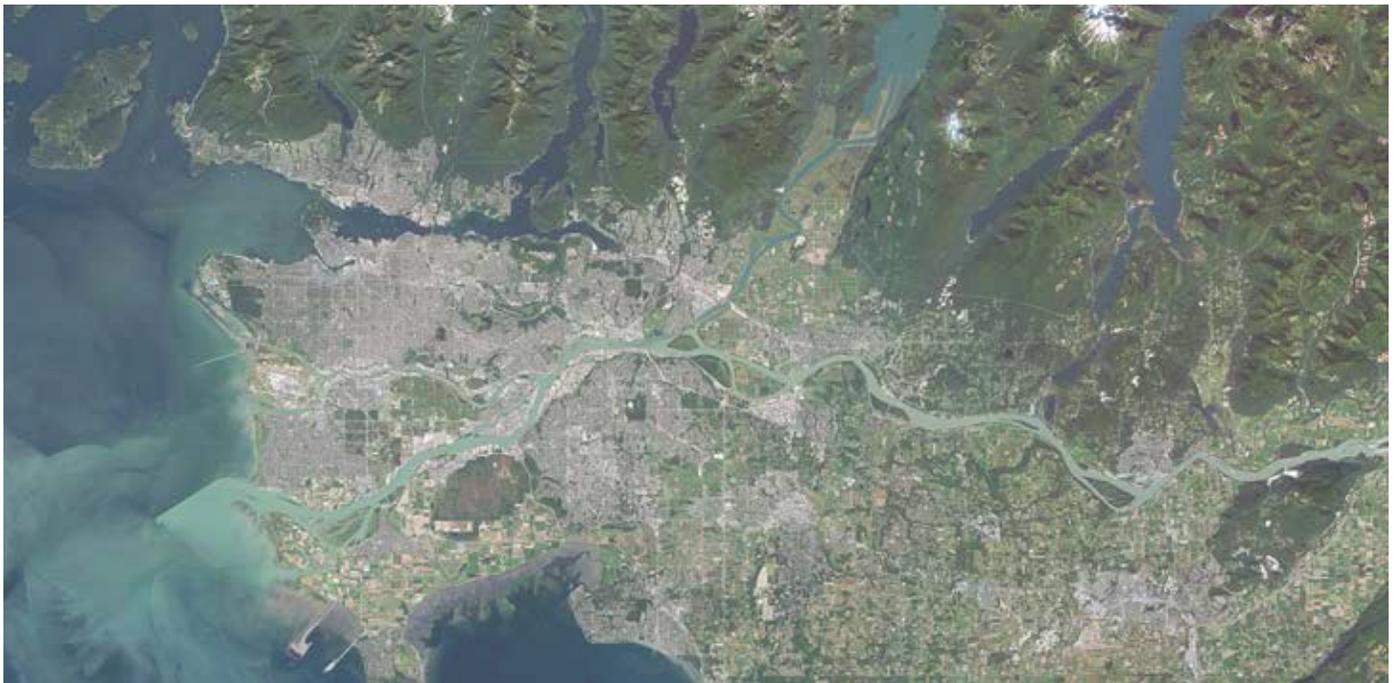
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Executive Summary

The economy of the Metro Vancouver region has been fundamentally restructured over the past three decades, shaped by global processes, but always mediated by local and regional factors. The 1980s were a decade of change, including a deep local recession caused by a steep decline in resource industries and their associated services. This was followed by the emergence of a new development trajectory shaped by markets, capital, and cultures of the Asia-Pacific – the leading growth economies of a globalizing world.

A signature event of the 1980s was the Expo '86 World Exposition, showcasing advances in transportation systems and technologies. Metro Vancouver's first fixed-rail transit line, linking Vancouver's downtown first to New Westminster and then to the nascent regional town centre of Surrey, facilitated the emergence of a regional economy and an increasingly cosmopolitan society. Both processes were enhanced by immigration from the Asia-Pacific. The 2010 Olympic Winter Games represented another hallmark event for Metro Vancouver, with important venues situated in Richmond and North Vancouver as well as the City of Vancouver and Whistler.

Foundational features of Metro Vancouver's economy are the strategic gateway complexes of Port of Vancouver, Canada's largest port, and Vancouver International Airport (YVR), consistently ranked as the leading airport in North America. The airport and cruise ship terminal underpin the important visitor economy of tourists, convention delegates, and extended family members. In addition, higher education and related advanced research institutions, the health and medical complex, firms providing finance and business services, and property development companies comprise cornerstones of Metro Vancouver's economy. New and growing clusters of specialized industries and labour include film and video production, telecommunications, social media, green industry technologies, aerospace,

and high-value food and beverage production. The latter are supported by the agricultural operations within the region and into the Fraser Valley. Many of these clusters are increasingly represented throughout Metro Vancouver, contributing to the emergence of a true regional economy.

Looking forward, Metro Vancouver's economic prospects are enhanced by many factors. These include international connectivity, higher education institutions, cultural diversity, unique regional ecological assets, and positive place-identity, all supported by commitments to quality public infrastructure and services. These provide a platform for economic development, opportunity and widely shared prosperity if supported by the right governance model and policy levers.

Our study also discloses some problematic conditions and factors. These include a serious mismatch between housing and labour markets within the region, the lack of propulsive-scale firms in major sectors compared to leading metropolitan economies, land supply constraints, transport congestion, and detrimental social conditions including poverty, polarization and inequality.

In our view, moving forward to a dynamic, sustainable and high-wage economy will require a new approach, one more closely aligned with the models of the most successful advanced metropolitan economies, and attuned to our region's specific conditions and potentials. More specifically, a prosperous Metro Vancouver requires, with some urgency, a more effective collaborative and regional approach to development, a complementary program promoting a more fully networked economy, an innovative approach to managing critical land resources, and a commitment to a more effective use of the human, social, cultural and institutional resources that abound in the region.

Purpose and Approach

The purpose of this report is to describe and analyse the extended regional or metropolitan economy by looking backward over the last 30 years and projecting into the future. We draw on concepts from academic literature in urban studies and planning, as well as empirical sources.

We intend to delineate Metro Vancouver's principal economic advantages and drivers that are its sources of prosperity as well as its weaknesses and challenges. This involves identifying growing and profitable economic clusters, agglomerations of similar and connected kinds of economic activity, as well as their forms of labour market, employment characteristics and levels of remuneration. Not all clusters are equal, of course, nor do they necessarily interact and cumulatively reinforce one another. Each cluster exhibits its own unique and specialized tendencies.

The conceptual framework derives from concerted work carried out by Canadian and international scholars on changing inter- and intra-metropolitan economic relationships. This work includes our extended engagement within larger collaborative economic research projects on the dynamics of urban growth and change, cited in Appendix I. The topic of urban economic change has been a rich research vein, deep and productive (see Appendix II for important examples). We also make use of the now significant body of scholarly work completed by researchers based in Metro Vancouver, which is both theoretically suggestive and empirically dense. Empirical sources include Canadian census material, BC and Metro Vancouver statistics, and industry and area-based reports including selections from the Conference Board of Canada.

We begin with an overview of how Metro Vancouver's economy evolved over the last decades, followed by a discussion of the importance of metropolitan economies as the driver of development in a globalizing economic context. We then offer a profile of Metro Vancouver's economic pathway, taking into account the industrial restructuring of the past three decades, together with implications of a shift in development orientation toward the Asia-Pacific. Next we address the organization of Metro Vancouver's economy, underscoring the importance of specialized clusters, and a discussion of growth opportunities and more problematic features, and close with a summary of observations concerning regional and collaborative approaches, network formation, and industrial land.

Contours of Economic Change in Metro Vancouver

During the last 30 years Metro Vancouver's economy has undergone a sea change. Its old self is now barely recognisable. Large swathes of the old landscape where the economy was once embedded are no longer detectible.



Until the first half of the 1980s, Metro Vancouver functioned as a local control, finance, distribution and processing centre for British Columbia's resource or staples economy. The principal resource was the "Green Gold" of forestry, as UBC scholar Patricia Marchak once described it. Other staples that were managed, financed, and distributed within the region included coal, fish, agricultural commodities and a variety of minerals. There was even a small stock exchange on Howe Street that raised capital from "penny stocks", primarily for speculative mining ventures. Decision-making and financial services were concentrated in downtown Vancouver, and included corporate headquarters like MacMillan-Bloedel's prize-winning, Arthur Erickson-designed, head office on Georgia Street. Processing and distribution functions were dispersed around Burrard Inlet and the inner suburbs along the Fraser Estuary.

The forestry sector became more capital-intensive, and forests more accessible. From the 1970s, as companies continued to operate in ecologically sensitive, old-growth forests, there was increasing conflict between logging companies, conservationists and First Nations. Greenpeace, which was founded in Vancouver in 1971 to oppose nuclear testing, joined with other local activists to oppose some logging operations especially in coastal British Columbia, leading to what was known as the "war in the woods". This dynamic of oppositional politics and public protest on resource-based economic activity can be observed in the current controversies around the shipment of coal and the transportation of oil by pipeline in and through the Lower Mainland.

The world came to Vancouver for "Expo 86", signalling a changed relationship between Metro Vancouver and the rest of the world. At the same time, wider forces of globalization were taking hold, including the opening up and expansion of economies hitherto closed and stagnant, like China's and India's. Moreover, as Metro Vancouver began to move towards "world city" status, its relationship to the rest of the province altered, particularly in relation to its staples economy. From about 1986 Metro Vancouver began to decouple, to separate itself, from British Columbia's historically diverse, sometimes lucrative, sometimes depressed, resource economy. The metropolitan economy became much more varied, incorporating knowledge- and technology-intensive specializations, with new industries and clusters.

1. Port Metro Vancouver was renamed the Port of Vancouver in 2016.

The impact of global forces also changed the face of Metro Vancouver. There was the loss of resource corporations headquartered in the downtown core (most notable was MacMillan Bloedel which was bought out in 1999 after more than a decade of financial turmoil) and a reduction of manufacturing jobs, often unionised and well paying. In 2014, only 5% of Metro Vancouver's employment was in manufacturing. This is a much smaller percentage than for Toronto or Montreal, but comparable to London and Hong Kong, which have undergone extended and deep restructuring processes.

By opening itself up to the world, and spurred by federal and provincial policies around immigration, Metro Vancouver benefitted by attracting people, investment capital and businesses. Its historical ties helped it forge particularly strong connections to Asia (more than half the globe by land area and population), becoming a gateway city for that continent. In this sense, Metro Vancouver shared in the wealth created in places half a world away. There were costs to this strategy of greater engagement with the Asia-Pacific, though, including the current inflated housing market and a widening social divide.

Infrastructure, investment and new management systems have been critical to Metro Vancouver's international trajectory. The establishment of Port Metro Vancouver in 2008, comprising the previously independent Port of Vancouver, the Fraser River Port Authority, and the North Fraser Port, enhanced the impact of port activity. The port¹ and the Vancouver International Airport, owned by Transport Canada, a federal agency, enhance Metro Vancouver's strategic gateway role, and more especially the region's – and Canada's – connections with the Asia-Pacific that constitute the most influential circuit of growth and change in the region.

Global Processes and Local Outcomes in Metropolitan Economies

We are now in the age of metropolitan economies. Over the course of the 20th century, metropolitan-regions, large extended urban areas like Metro Vancouver, have emerged as the principal drivers of global economic growth and change. They are places where talent congregates and where economic innovation and creativity as well as corporate decision-making occur, affecting not only local and national but international economic spaces. Finance capital, including venture capital, accumulates in these urban centres and global supply chains come down to earth as production, distribution or retail centres; specialized forms of economic activity such film production, or high-tech innovation, or financial services agglomerate and cluster; and migrants from the four corners of the world journey, bringing skills, resources, and cultural knowledge. Further, the very diversity and density of activities found in metropolitan economies enhances economic productivity through internal and external economies of scale, producing a virtuous cycle, where prior growth and prosperity creates yet more growth and prosperity. Large metropolitan regions power the global economy.

Pulling from the academic literature, there are four important features of metropolitan economies.

The emergence of world cities in advanced economies and urban systems

First, large international metropolitan regions are “world cities”, a term coined by Peter Hall during the second half of the 1960s, and further developed and

refined especially during the tidal wave of globalization of the 1980s and 1990s. World cities are places where the work of globalization is done. London, New York, and Tokyo are at the very top of the world cities hierarchy. Those metropolitan regions perform their functions, especially finance and corporate control, around the globe and around the clock. But there are other levels within the world cities hierarchy. In the second rung, which would include such metropolitan regions of the global north as Paris, Frankfurt, Sydney, Los Angeles, and Chicago, are so-called “multiplex cities” containing ensembles of banking, management, scientific innovation, media and creative industries. Within the high-growth East Asian region at the same hierarchical level are Seoul, Shanghai, Hong Kong and Singapore, with Shanghai especially posing a challenge to Tokyo’s apex global city status in the East Asian realm. Each of these cities projects significant global reach while serving as local management and banking centres. And within the Global South, Johannesburg, Mumbai, Sao Paulo and Mexico City comprise sites of head offices, banking and trade as well as increasingly advanced industrial production.

Within Canada, metropolitan Toronto is also on the second rung of the hierarchy, while other large Canadian metropolitan regions are on the next step down. They are important nationally, but they don’t interact with the whole world, only a part of it, often trading on past historical linkages with particular regions. In Metro Vancouver’s case, it is the connection with parts of Asia that is important. A useful idea linked to world cities is “transnational urbanism”. This is the



notion that an important connection among world cities, in fact, partially holding them together as an overall system, are contemporary patterns of migration in which migrants continue to live in two places at once. Transnationalism is increasingly practiced because of the ease of international transportation, ever more permeable boundaries, and the possibilities of holding two citizenships, or at least one citizenship and a residence visa.

Germane to Metro Vancouver, transnationalism has been associated especially with the Chinese diaspora. It is linked to what Aihwa Ong calls “astronaut families”, the opposite of nuclear families that are characterized by family members all staying in the same place. Astronaut families, in contrast, are split between different places, with different members of the same family at different times spending periods at each of those places. For our purposes, the importance of transnationalism is that it provides yet more glue in the

Canadian economist Harold Innis’s ‘staples theory’ of development published almost a century ago.)

Given Metro Vancouver’s small manufacturing employment, deindustrialisation had limited effects, although at particular sites they were transformative. For example, the former industrial areas of the north and south sides of False Creek have become primarily residential and associated with the new economy. Mills along the Fraser River demonstrated greater longevity but are now transforming also into new urban spaces. An important issue here is “resilience”; that is, the ability of a given metropolitan region to bounce back following a significant traumatic event such as deindustrialisation or deep recession. Metro Vancouver’s resilience was especially robust following the decline of the provincial resource economy during the first part of the 1980s. It was then that Metro Vancouver remade itself, taking on a second life.



bond that holds world cities together. Transnationalism brings thick connections, literally embodied, holding together the extended metropolitan regions between which people’s lives are geographically split.

Within the world cities of the global north, and particularly, metropolitan economies found within Canada, there are broad common features. First is deindustrialization, the decline of mass manufacturing employment that began in the 1970s and reached a nadir during the 1980s. Clearly, those cities that historically relied on manufacturing were most affected. In Canada’s case they were found mainly in Ontario and Quebec, which comprised Canada’s industrial heartland, while more peripheral regions specialized in the resource industries. (This pattern was captured in

A shift to a services-based metropolitan economy

The second common feature among metropolitan economies has been the rise of the service economy. Within the largest metropolitan regions this has meant the growing prominence of an educated, credentialed professional, scientific and cultural workforce. Such workers are part of a larger shift in the economy towards a post-industrial society, and first recognised in embryo during the early 1970s by the American sociologist, Daniel Bell. The post-industrial economy replaced the old manufacturing economy. Post-industrialism’s principal product is not tangible – such as cars, stoves, two-by-fours – but intangibles: knowledge and information. Because

what is produced is different, the workers who make it are also different. They are valued for their creativity, education and mental agility, which have been acquired and credentialed by the institutions of higher learning they attended. In Richard Florida's terms, this portion of the workforce forms a new urban "creative class", which through its high income, its preference for urban residences, and its particular retail consumer aesthetic, has reshaped the form and internal dynamics of large metropolitan regions.

The other form of service work carried out in large metropolitan areas, such as retailing, food and beverage, and personal services, generally does not require sustained levels of education and training. That work mainly serves the needs of the local metropolitan population. Financial rewards for this kind of service work are not as high as for the creative class. In Metro Vancouver's case, this part of the service sector also satisfies the needs of visitors, tourists and short-term residents, as well as transnationals. For one of the functions of Metro Vancouver is, as Elliot Siemiticki put it, "a resort town": an overstatement perhaps, but a term with resonance in the Metro Vancouver urban imagination.

There is a significant regional aspect to services development in Metro Vancouver. Complexes of specialized office and retail activities are key to the growth of regional town centres, exemplified by Surrey Centre, Burnaby's Metrotown and North Vancouver's Lonsdale Quay. They have embodied key planning goals since the original regional growth management strategy, *The Livable Region 1976/1986*. Further, that remains in the current *Metro Vancouver 2040*, comprising an important continuity in Metro Vancouver's extended development narrative.

The importance of specialized industrial clusters

A third common feature among the larger extended metropolitan economies within Canada, and other global northern countries, are clusters of new economic activity, especially in high tech, design, social media and cultural industries. Such clusters: attract capital, especially venture capital, and talented, high-paid skilled labour; help forge international connections; and are a source of scientific and cultural innovation.

The activities are clustered because of agglomeration economies, which result from the high degree of interaction, both formal and informal, among firms forming the geographical cluster. Agglomeration advantages include the establishment of schools and educational programmes to train labour employed in the cluster; the splitting of costs among firms for production space and equipment; the setting up of business associations and lobby groups to further the interests of the cluster; the sharing of information among firms about new markets, products, techniques, and labour; the emergence of specialized services, say, in finance, to meet specific needs of the cluster; the opportunity for a more fine-grained division of labour, and hence greater cluster productivity; and a relentless drive within the cluster for innovation and advantage spurred both by internal cooperation and competition. The point is that clusters have an energy, dynamism and vigour brought about by their very collective character. Any firm located within the cluster both raises its own competitive profile and, in so far as it contributes to the collective, raises the cluster's competitive profile too. Competitive advantage lies outside a firm, even the industry, residing instead in the aggregated production complex, the cluster, and the associated concentrated geography.

In addition, certain kinds of institutions and networks are key to the growth of such clusters within advanced economies of city-regions. Foremost among these are major research-based universities. They train and educate the high-level labour central to the most successful urban-regional economies, and also attract major national and international funding for all kinds of research, notably in the domains of applied science, telecommunications, transportation, medicine and health, and architecture and the built environment. The arts and humanities are also important foundations for advanced urban-regional economies, as they help to promote the creativity and cosmopolitanism associated with great world cities such as London, Paris, and New York. Increasingly, too, the strength and operating characteristics of networks (which may include production, business, social, cultural, or institutional networks) constitute defining features of the most advanced metropolitan economies. Manuel Castells developed this idea in his landmark study, *The Rise of the Network Society* (Wiley-Blackwell 1996). More recently, drawing on an extended program of comparative research in Los

Angeles and San Francisco, Michael Storper's *The Rise and Fall of Metropolitan Economies* (Stanford: 2015) compellingly shows the critical roles played by the interactions of economic specialization, human capital and institutions in the economic success of city-regions in the twenty-first-century. Finally, Allen Scott has underscored the centrality of knowledge, creativity and social connectivity in *Social Economy of the Metropolis: Cognitive-cultural capitalism and the global resurgence of cities* (Oxford 2008).

The spatial organization of metropolitan economies

A final common feature is explicitly spatial, the increasing geographical fragmentation of metropolitan regional economies. "Urban splintering" means that different spaces within the metropolitan region specialize in different kinds of economic functions and forms of employment. The different parts are not conventionally integrated into a single, uniform-type of economy. Rather, as one commentator suggested, the different spaces are held together by "mutual gravitational attraction", with in some cases large geographical gaps between the nodes. The idea of a fragmented, multi-nodal, multi-specialised city-region, a splintered metropolis, has been investigated empirically, demonstrating an increasingly complex spatial structure.

Typically, three kinds of different spaces within the metropolitan region are recognised. First, there is the inner city zone around the city centre, which is increasingly residential, subject to the juggernaut of gentrification, and bound up with high-end forms of retailing, public and private consumption and spectacle. Industry here takes the form of cultural, design-based and technology-intensive spaces of the new economy, or "neo-industrial" as it has been called, and a leading development zone for world cities such as London, San Francisco and Shanghai. Second, within suburban districts we observe specific nodes and activities such as manufacturing, retail and business centres, industrial parks, universities and technical colleges, research and development campuses, and airports. Finally, there are peri-urban spaces, anywhere from 50-100 kilometres outside of the downtown core, which make the transition from the rural to urban functions. This zone can include new residential spaces along with public

and commercial services as well as transportation infrastructure, and industrial activity requiring large footprints or cheap land prices and rents.

The geography of economic activity within these spaces of the metropolis include the central business district (CBD) comprising financial and corporate office activity; industrial districts, which accommodate manufacturing, warehousing and distribution; special-purpose zones for major ports and airports; and retail districts which may include specialized retail areas as well as major shopping centre complexes. But these economic spaces are not immutable, and are subject to forces of change, reflecting the rise of new industries (and decline of others), the impacts of production and communications technologies, and global forces. Digital technologies, corporate downsizing and changes in the structure of labour have impacted central business districts, with retail, technology firms and consumption activities infiltrating the CBD. The decline of traditional manufacturing and resource industries, as in the Metro Vancouver case, have produced employment losses, but represent resources for new industries, especially in the technology and creative industry sectors. 'Cultural quarters', typically including creative industries as well as ancillary consumption activities such as restaurants, cafes and bars, have emerged as significant economic spaces of the metropolis.

But again pressures of change are apparent, pointing to the fluidity of space and function in the metropolis, and we acknowledge three examples:

- The idea of industrial spaces shaped by largely localised production networks of labour and suppliers must be modified by the increasing use of outsourcing, enabled by digital production and communications technologies, essentially 'stretching' the territorial scope of modern production systems;
- The patterns of retail activity in metropolitan areas are increasingly subject to the growing trend toward e-retailing and online shopping; and
- Globalizing cities such as New York, London, Toronto and Vancouver are exposed to large inflows of capital from international sources, placing upward pressures on land prices, and a powerful tendency toward more profitable land uses displacing others in the process.



Structural processes and the power of local-regional contingency

The processes of deindustrialisation, the growth of the service economy, new economy cluster formation, and urban splintering are found across Canadian metropolitan regions, indeed, across metropolitan systems of the global north. They indicate a degree of convergence among metropolitan economies. Within this high-level frame there can be significant divergence across the urban systems within and between countries, however.

For example, Metro Vancouver's historical ties to Asia, which began before the province was a province, and Vancouver was Vancouver, clearly has influenced both the current pattern of immigration to the metropolitan region, and the economic consequences. Metro Vancouver has a far higher proportion of ethnic Chinese (19%: 402,000 ethnic Chinese population) than Calgary (7%: 75,401 Chinese population), or the Seattle-Tacoma metropolis (4.1% ethnic Chinese). Neither had a historical relationship to China like Metro Vancouver. The reversion of Hong Kong to China by Britain in 1997 and the promotion of Asian immigration by the British Columbia and Canadian governments through the immigrant entrepreneurial programme in 1998, along with the rise over the last quarter century of East Asia as a titanic economic power, have brought immigrants and wealth to the region.

Another example of Metro Vancouver's uniqueness has been its changing relationship with the wood-products industry. Historically, Metro Vancouver was embedded within the province's forestry sector; trees were the local natural resource endowment that produced the greatest income and wealth. That, as we will discuss in some detail below, changed during the early 1980s, so that forestry was no longer an industry on which wealth and income could be counted. Compare that to Calgary whose local resource endowment, oil, continued to generate wealth and income, and at some periods, enormously so. It never faced Metro Vancouver's crisis during the 1980s, until now at least. Seattle-Tacoma's economy was also initially based on the forest economy. However, in the 1920s the Boeing Corporation established its operations there. Making planes increasingly became a new source of wealth and income, and through the linkage to electrical engineering, helped create that metropolitan region's high-tech economy.

The larger point is that while extended metropolitan regions may experience common processes like deindustrialisation, service sector growth, and new economy clustering, how those places deal with those processes, and the economic consequences, will be different because of particular determining local geographies and histories.

Metro Vancouver Goes Global

Development Trajectory

The provincial staples economy, most prominently forestry, fishing and mining, initially drove the development of what is now Metro Vancouver. Downtown Vancouver was the corporate decision-making and finance centre, and the Port along with warehousing along Burrard Inlet and the Fraser River were principal sites of physical storage and distribution. Processing was carried out across the Lower Mainland. In Innis's language, Vancouver developed as a "local metropole" for British Columbia's natural resource economy, performing key financial, management, processing, and distribution roles.

Some of the municipalities within Metro Vancouver were connected directly to staples production, such as fishing in Steveston (now part of Richmond), logging in North Vancouver, agriculture in Richmond, Delta, Surrey, Pitt Meadows, Maple Ridge and the Langleys, and the milling and pulping in New Westminster. Municipalities such as Burnaby, Surrey, Coquitlam and Port Coquitlam were prime for suburban development because of their proximity to the downtown core and the extensive green space that was available.

From the late 1970s, BC's three principal staples industries, fishing, mining and forestry, began to experience difficulties. Over-fishing resulted in declining catches. Global competition, especially from South America, decreased investment in BC mining. And the forest industry that formerly produced fifty cents of every provincial dollar was beset by a series of crises that included valley-by-valley environmental protests, prohibitive US import tariffs, green-driven consumer boycotts, First Nation blockades, and, most recently, the pine beetle infestation. The consequence was a "de-coupling" of the Metro Vancouver economy from the mainstay of resource production in the rest of the province. Among other things this resulted in the closing of Vancouver's resource-focussed penny stock exchange in 1999, shrinkage and in some cases eradication of corporate headquarters, and elimination of staples processing jobs (the White Pines Division on

Southwest Marine Drive in the City of Vancouver closed in 1999 and Canfor closed its Panel and Fibre Mill in New Westminster in 2007).

It was within this context of the decline that a new Metro Vancouver economy emerged, showing remarkable resilience as it thrived in a post-staples economy. As the character of commerce changed, Metro Vancouver became significantly post-corporate, with fewer head offices than comparably sized metropolitan regions. In 2014, there were 240 head offices in Metro Vancouver with 15,000 employees, compared to 386 head offices with 41,276 employees in Montreal, and 215 head offices with over 32,000 employees in Calgary. (Source: [Statistics Canada Table 528-0002](#)).

Metro Vancouver's post-staples economy took on the hallmarks of post-industrialism. Employment soared in the service sector. In 2011, there were 95,000 workers in professional occupations that climbed to 130,000 in 2015 (Source: [Statistics Canada Table 282-0131](#)) and helped to produce the creative class. At the other end of the spectrum there were numerous lower-paid jobs in the form of personal services, from shop assistants to wait-staff in restaurants to taxi drivers. Further, studded across Metro Vancouver were also a variety of clusters of intense economic activity, some traditional ones organized around the Port and YVR as well as newer clusters involving video-game production, the design of social media platforms, and film and TV production. Each of these clusters had their own distinctive geographies, in part made available by clearing space that was formerly occupied by defunct staples activities.

Metro Vancouver also encompasses a large and economically important agricultural sector. The Agricultural Land Reserve contains over 60 thousand hectares, or about 22% of the regional land base, and includes 2,800 farms (Metro Vancouver website). Metro Vancouver's agricultural sector, which includes major produce, berry and dairy farming, employs over 8,000 workers, and contributes almost \$800 million in gross farm receipts. Further, Metro Vancouver's agricultural areas provide key ecological services to the region,

forming a critical part of the region's green spaces (together with wilderness and recreational lands) which comprise over 60% of Metro Vancouver's total land area.

Finally, there has been urban splintering. Municipalities that formerly had been linked into the metropolitan staples economy asserted a measure of autonomy, specializing in new forms of activity, such as high-value forms of production and service provision, including film and TV production studios in North Vancouver and Burnaby, Vancouver International Airport in Richmond, and high-tech industries situated in Richmond, Burnaby and Surrey.

It was as its new post-staples self that Metro Vancouver emerged as a lower tiered world city. It has significantly rescaled its geography over the last thirty years. Its old self was tied to the fortunes of the staples industries of the province's interior and Western Canada. Now Metro Vancouver serves and is linked to the world. Consequently, while in 1991 Metro Vancouver's population was 47.5% of British Columbia's, in 2015, that share increased to 53.7%. (Source: BC Stats)

Metro Vancouver's principal global linkages are through the trading circuits, metropolitan regions, and cultures of the Asia-Pacific. The city is now a node within a larger vibrant network of Pacific Rim flows of people, money and ideas. Government at all levels has been an important lubricant fostering trade missions, investment incentives, educational exchanges, and opportunities for migration. Particularly important was the state's role in managing the large-scale immigration of entrepreneurs from Taiwan, Hong Kong, and China. Apart from the lure of an established community of ethnic Chinese in Vancouver, this class was persuaded to move to Metro Vancouver in 1986 because Citizenship and Immigration Canada added an entrepreneurial stream to its Business Immigration Programme. That programme was cancelled in 2014, but over its course tens of billions of dollars were landed in the British Columbia economy, and Metro Vancouver's in particular. Metro Vancouver's economy from the mid-1980s was incorporated within the Chinese diaspora's Pacific Rim transnational flows.

More recently, there have also been expanding connections with Europe and with emerging economies of the Global South, especially those of South Asia and Latin America. This larger rescaling of Metro Vancouver

is partly a result of deep structural forces bound up with globalization, innovation and competition, but it is also a consequence of contextual local factors. They have included Metro Vancouver's innovative residential development, ecological stewardship, distinctive urban design, and commitment to rapid transit and 'active transportation' approaches. Such home-grown factors have established Metro Vancouver as an admired and emulated region, generating positive associations that have served to attract new enterprises and skilled workers.

Opportunities and Challenges

Within the context of Metro Vancouver's economy, we can recognise two main organizational levels. The first is anchored by major institutions regulated and in some cases supported by the state that include the strategic gateway infrastructures of the Port of Vancouver and Vancouver International Airport (YVR), higher education institutes such as the University of British Columbia, Simon Fraser University, BCIT, and Emily Carr University, and major hospital and medical facilities. The second is a more granulated economic landscape primarily of small- and medium-sized privately owned enterprises (SMEs) within the service sector. Metro Vancouver lacks the propulsive multinational corporations found in cities like Toronto, Seattle and San Francisco. Consequently, it is reliant on the dynamism of the SME sector for generating employment, sales, revenues and trade. Within the SME sector, for example, video game firms and social media start-ups have played key roles in innovation, product development, and generating employment opportunities, especially for younger workers who have high levels of education, entrepreneurial drive, and cultural capital.

At the first level of big institutions, both YVR and the Port are critical. YVR is the second largest airport in Canada, with more than 20 million passengers passing through it annually and 271,000 tonnes of cargo. There are 400 businesses at the airport, directly generating \$1.1 billion in wages. The Port of Vancouver is the largest port in Canada, with 28 separate terminals spread across the metropolitan region, handling just shy of a fifth of all of Canada's merchandise international trade. It is the third largest port by tonnage in North America (eclipsing New York), employing 47,700, and generating \$10.5 billion. Two of the terminals are for cruise ships, which have twice as much traffic as Canada's second

most important cruise port, Halifax. In both cases, YVR and the Port play a crucial gateway function for Metro Vancouver, literally connecting it to the rest of the world, solidifying its status as a world city.

That global reach is also the case with Metro Vancouver's major higher-education institutions. The University of British Columbia (UBC), for example, with an annual operating budget of \$2.3 billion, takes in over 13,000 international students or 23% of its annual enrolment. The University employs over 15,000 academics, staff and service workers and generates \$12.5 billion in revenues. While UBC is the oldest academic institution in the region and traditionally ranks among the top 30 universities globally, there is considerable strength in academic and technical training as well as research across the region. Simon Fraser University (SFU) has developed a multi-nodal character. In addition to its original campus on Burnaby Mountain, SFU boasts a major presence in downtown Vancouver, including the Morris J. Wosk Centre for Dialogue, the Goldcorp Centre for the Arts, and the Segal Graduate School of Business and in Surrey, the Bing Thom-designed SFU Surrey City Centre campus that provides a strategic development role while also contributing to the diversity of community life. The British Columbia Institute of Technology has its principal site in Burnaby, but also has campuses in North Vancouver, Richmond, and downtown Vancouver, and constitutes a propulsive force in the development of Metro Vancouver's burgeoning tech-sector, as does the Centre for Digital Media. The Emily Carr University of Art + Design is ranked as a leading Canadian and international institute in higher arts education, training and practice, and provides a creative stimulus to Metro Vancouver's important cultural economy sector. Other

significant institutions of higher education include North Vancouver's Capilano University, Kwantlen Polytechnic University (campuses in Surrey, Richmond and Langley), and Langara College in Vancouver.

Finally, there is the life and health sciences cluster which includes the operation of two public health authorities, associated hospital complexes, research facilities and innovation centres with links to both UBC and SFU. In general, these large-scale institutions not only provide basic services for the Metro Vancouver economy, they are generators of considerable income in their own right.

The other level of Metro economic activity is dominated by often small, private sector firms in a disparate set of sectors. There are a few big corporations which act as anchors for a given sector, but the headquarters for those firms compared to those of, say, Seattle giants such as Microsoft, Boeing, Amazon, and Starbucks, are small fry. There are branch offices of global corporations found within Metro Vancouver such as Microsoft, Electronic Arts, or Sony Pictures, but they are branch offices with limited budgets and employment, and important corporate decisions are made elsewhere.

Within Metro Vancouver's SME sector we can identify four main clusters. High-tech is likely the most dynamic, providing green, well-paying jobs that are interesting and draw on Metro Vancouver's well-educated labour market. In 2011, 58.6% of the population of Metro Vancouver aged 15 and above had a post-secondary certificate, diploma or degree, and 34.1% had a bachelor's degree or higher (**Source: Statistics Canada, NHS Profile, Vancouver Census Metropolitan Area: 2011**). In 2014, there were 6,226 high-tech businesses employing 58,200 workers or 4.5%



of Metro Vancouver's workforce. For the most part firms were small, and spread across the metropolitan region, although there were geographical concentrations such as Mount Pleasant, Vancouver, East Richmond, and West Burnaby. There were also some larger firms such as Electronic Arts (video games) in Burnaby, and Hootsuite (social media) and Slack (cooperative software) in Vancouver, which provided opportunities for spin offs and outsourcing. The latter two were included within Canada's five 'unicorn' companies (tech start-ups valued at \$1B or more) ([Vancouver Economic Commission, Report on Technology 2014: Vancouvereconomiccommission.com](#)).

The second cluster is finance, insurance and real estate, the greatest and fastest growing contributor to Metro Vancouver's GDP. Clearly, much of the size and advance of that sector is bound to Metro Vancouver's stratospheric housing prices which are no longer confined to the west side neighbourhoods of Vancouver. Finance alone employs 41,900 people, making Metro Vancouver Canada's second financial centre by employment after Toronto ([Greater Vancouver Economic Scorecard Summary Report 2016: p. 20](#)). Its significance is undoubtedly a result of the close linkages Metro Vancouver has fostered with the fast-growing economies of Asia, especially China. In addition, there is a limited venture capital market with a focus on high-tech enterprises. It is overshadowed, though, by much larger venture capital markets in cities like San Francisco, Seattle and New York.

The third cluster within Metro Vancouver is film and TV production. Taking off during the 1970s as a result of the break-up of the old Hollywood studio system generating "runaway production", Metro Vancouver's film and TV industry is located in suburban locations, mainly North Vancouver and Burnaby, but filming occurs across the region. The success of the industry, while clearly depending upon the US-Canadian dollar exchange rate, has been brought about in large part because of a strong coalition among industry partners: firms, organized labour, and the BC government. Investment in film and TV production, much of it foreign, regularly exceeds \$1 billion, and when the Canadian dollar exchange rate is low, as it is currently, it edges up to \$2 billion.

Finally, there is tourism, also dependent on the value of the Canadian dollar. In 2014 there were 8.9 million visitors to Metro Vancouver who stayed at least one night. The tourism industry is a diffuse category, and the focus is dependent upon both human-made infrastructure and attractions such as Gastown, the Museum of Anthropology, and Fort Langley, and the natural environment, exemplified by the mountains, beaches, riverfront parks and the Reifel Bird Sanctuary. This underscores the importance of both cultural tourism and eco-tourism for the region. In addition, agri-tourism constitutes a growing segment of the Metro Vancouver economy, including wine, craft beer and artisanal food production. It is exemplified by the Circle Tour of farms in Langley, Maple Ridge and Pitt Meadows. Part of the service sector, the tourist industry varies widely in terms of wages and forms of employment. While there are well-paying, full-time, permanent, and even unionized jobs – for example in the hotel sector – the tourist economy also generates many seasonal, part-time, and minimum-wage positions.

If these are the opportunities embedded within Metro Vancouver's economy, there are also challenges:

- The *cost of housing* for homeowners and renters as well as rent for start-up businesses is perhaps the most important. While housing price increases have enriched long-term residents, it constrains and disheartens young, trained and talented workers even within the most-high paying professions like law and medicine. In an Ipsos Reid poll of Vancouverites asking about their life satisfaction it was the 25-34 age group with university degrees who were the most dissatisfied ([Trevor Melanson, Vancouver Magazine 20 June 2016: p. 54](#)). They were crippled either by exorbitant housing debt, or perhaps even worse, dispirited by the prospect of never owning a home in Metro Vancouver.
- Related is *wealth and income polarization* among Metro Vancouver's population. Those who own their houses outright are all millionaires, and depending upon where they live, multi-millionaires. But average incomes are comparatively low. Metro Vancouver's average family income is tenth against other metropolitan regions in the country. For the critical 25-34 age group, workers with a degree make \$36,484 in Metro Vancouver compared to \$52,109 in

Calgary, \$50,664 in Ottawa, and \$40,681 in Toronto (Conference Board of Canada, Scorecard for Greater Vancouver 2016: p. 31).

- The *lack of corporate head offices*, and more generally, large corporations, both reduces potential high-paying jobs, but also opportunities for corporate philanthropy and participation in the public life of the city. Seattle, only a little larger than Metro Vancouver, established a cultural events office that uses corporate donations to mount a full programme of civic cultural events throughout the year.
- Metro Vancouver's technology sector represents a vibrant element of the regional economy, with strengths in certain industries including telecommunications, video game production, software, and aerospace, among others. There are important clusters of technology-based industries and firms, including inner city districts of the City of Vancouver, within which Hootsuite is a leading firm; Discovery Park in Burnaby; and aerospace industries in Richmond. Metro Vancouver also encompasses significant branch operations of technology-based multinationals, including Microsoft. UBC also features important capacity in technology-based research and development, notably in Applied Science and Engineering. Innovation Boulevard in Surrey represents a vivid example of investments that promote synergy between health care, technology, education and business. But Metro Vancouver's technology sector, relative to those of leading city-regions such as San Francisco and Seattle, is *small, lacking multinational firms, propulsive sectors, and 'critical mass'* in terms of the scale and growth trajectories of technology clusters overall.
- Metro Vancouver's growth and development potential is shaped – and to a significant extent constrained – by access to capital and skilled labour; these are common to many metropolitan regions in an era of globalization and competition. But a critical constraint on future economic development in Metro *is in the sphere of land resources – and more particularly industrial land*. In common with other rapidly growing urban

regions, there are constant pressures on the land base associated with development pressures driven by capital re-layering, the search for higher returns on investment, and increasing competition for space.

These are common pressures experienced across metropolitan economies generally, but there are issues specific to Metro Vancouver. About one-half of the total territory of Metro Vancouver is dedicated green space – including wilderness and recreational areas, as well as agricultural lands. Overall this is greatly to Metro Vancouver's advantage in terms of quality of life and the policy goals of sustainable development and the 'green agenda'. Much of the rest of the Metro land base is allocated to commercial, residential and institutional uses. A large share of Metro Vancouver's industrial land base is linked to transportation, warehousing and distribution, including those areas associated with Port of Vancouver and Vancouver International Airport – two principal drivers of the regional economy.

We are concerned that the supply of industrial land will seriously constrain the development of critical 'new economy' sectors such as engineering systems, telecommunications, digitalised cultural industries and the creative sector overall. Land – and more specifically industrial land – should be seen not as a passive asset, but as a *strategic resource* for economic development. To demonstrate, leading city-regions are characterised by the retention of significant land in strategic locations which serve as the critical sites of innovative, high-value creative, IT and business start-ups, including London (Clerkenwell, Shoreditch and Stratford), Berlin (Mitte and Prenzlauer Berg), Milan (Bicocca), Barcelona (the 22@ project/Poblenou), San Francisco (the South of Market Area), Seattle (Fremont, Ballard, South Lake Union, Duwamish, Eastlake, and Redmond), and Shanghai (Suzhou Creek). These are dynamic areas of important cities, subject to upgrading pressures to be sure, and to what has been termed 'industrial gentrification'. But these metropolitan cities have ensured that there are adequate land resources for leading-edge industries and businesses essential to economic dynamism in the new economy.

Economic Geography: External Circuits and Comparators

Since the deep restructuring and recession of the 1980s, Metro Vancouver's economy has experienced growth and change, including the expansion of the region's services economy, advanced-technology industries, higher education, health care, cultural industries, and a very large consumption sector comprising retail and personal services. Over its existence, the Metro Vancouver region has transitioned from colonial outpost and peripheral centre of the national economy to its inclusion within both the Asia-Pacific and the 'Cascadian' region. The latter includes Seattle and Portland and (in the most expansive definition of Joel Garreau's 'Ecotopia'), San Francisco.

While there are commonalities between Metro Vancouver and other west coast cities, including its Asia-Pacific orientation, multiculturalism, and ecological values and environmental assets, there are significant contrasts. San Francisco and the Bay Area have emerged as the world's leading centre of advanced-technology research and production and the digital economy. The Seattle-four county area in central Puget Sound incorporates global-scale multinationals including Boeing, Microsoft, Amazon, Starbucks, Nordstrom, Costco and others, as well as large operations of (for example) Google and Adobe. These constitute a base of advanced corporate enterprise and high-technology capacity orders of magnitude larger than Metro Vancouver. What is common to these two metropolitan regions, though, is a tradition of commitment to inter-governmental regional collaboration, and active networks of association and cooperation at the levels of sectors, industries, and key individuals: entrepreneurs, innovators, and investors. In Michael Storper's study of the success of San Francisco over Los Angeles, singled out was the willingness of Bay Area firms in different sectors to work with other firms and branches of local government to facilitate exchange and knowledge transfer.



Toward a Collaborative Regional Governance and Networked Metro Vancouver Economy

Contemporary metropolitan regional economies are highly complex, increasingly subject to global factors, and varied in terms of industrial structure, enterprise mix, and labour force composition. Progressive development within the most successful metropolitan economies, though, typically follows the same path of collaboration, association and interdependency.

The Metro Vancouver economy is 'open' to external factors, creating pressures and opportunities for development. For example: the region is a major importer of capital, but much of this is 'sunk' in real estate rather than being directed to business start-ups and operating companies. Inflationary land markets may promote upgrading but they also suppress start-ups that are squeezed out of affordable space.

The challenge is to think creatively and critically about the future, and more particularly about how governance, policy and planning can shape (or at least support) progressive development in the region. There is already a complex and distinctive governance, institutional and policy regime within the region as a whole. There are in place progressive policies for green space, for mixed-income housing, for sustainable transportation, and for tourism, among other policy sectors. But the governance model for the Metro Vancouver economy is balkanized and fragmented, and generally inadequate for the needs of a modern, contact-intensive, knowledge-based and networked regional economy.

Following the logic of North America's most successful metropolitan economies, we endorse a commitment to fostering much stronger collaboration among economic agencies and actors across the Metro Vancouver region. This approach starts with an assessment of the collective Metro Vancouver assets, competitive advantages and enterprise structure, and how they could be leveraged by recognizing the diverse strengths and opportunities which abound in each municipality, community and districts within the region. But there should also be commitment to fostering a parallel and complementary network of Metro Vancouver's industry groups, dynamic enterprises, and key unions

and collectives as a means of unlocking the economic potential and possibilities for broader prosperity within the region.

A *Metro Vancouver economic agency* could effectively move the metropolitan economy forward. The potential areas of focus of this agency are forging strategic and collaborative plans for managing the lands needed for economic development, and more particularly addressing the future needs of leading-edge industries in the technology, creative-cultural and green systems and sectors; developing effective liaison and partnerships with foundational regional institutions such as Port of Vancouver, YVR, UBC, SFU, Discovery Parks, and the Vancouver Coastal and Fraser Health Authorities; coordinating the development of timely and useful statistical data on Metro Vancouver's economy; developing effective marketing for Metro Vancouver's propulsive sectors, industries and firms; and lobbying for more effective policies and programs for key investment areas such as transportation infrastructure and communications systems, education and training and social development.

The specific institutional structure of a regional economic governance body lies outside the scope of this report, and would be the object of a separate study, undertaken as a structured process of consultation with all interested parties with clear terms of reference. But what we can say is that such an agency would explicitly recognise the current allocation of policy powers, roles and responsibilities among orders of government within British Columbia, where the Government of British Columbia exercises economic development policies and programs for the province as a whole and its constituent regions and municipalities, and where municipalities represent the basic unit of economic development at the local level in B.C. What we are proposing instead would likely take the form of a small, adroit agency with an intent to *complement* (rather than duplicate) the work of existing bodies, with a clear mission to develop programs not currently undertaken at the regional level, and with input from all of Metro Vancouver's municipalities. In any event what

we are suggesting represents an initiative in *flexible governance*, aligned with the practices of the most successful metropolitan economies, rather than the establishment of a new level or structure of *government* with a legislated mandate and permanent powers. We therefore recommend a thoughtful, entrepreneurial approach to development policy in Metro Vancouver as a crucial step toward the strategic goal of building an economy of high-wage enterprises within the key advanced-technology, creative and green economy sectors.

A *networked Metro Vancouver economy* would involve promoting critical partnerships, liaisons and operating relationships between and among the metropolitan region's industry groups, institutions, business leaders and entrepreneurs, labour groups, and community development agencies, with a view to growing the regional economy through the following (exemplary) collective strategies and actions:

- Promoting inter-firm synergy through the 'mashing up' (after Michael Storper 2015) of key, potentially complementary sectors and industry groups, such as film and video production, music, social media, architecture and urban design.
- Sharing market intelligence, including opportunities for sub-contracting and collective marketing ventures, and forming consortia for bidding on major contracts.
- Advocating for local-regional policies for transportation investments, land-use policy and regulation in Metro Vancouver.
- Working with local community economic development agencies to 'unlock' larger potentials of Metro Vancouver's culturally diverse communities and neighbourhoods.
- Cooperating with civic agencies in the creative place-making of Metro Vancouver's districts, communities and neighbourhoods, in the interests of local job creation, progressive image-building, and marketing.

Establishing these collective mechanisms and action frameworks of the metropolitan economy will require a sustained commitment from government, business, institutional and community agencies and actors, and will deliver benefits over the medium- and longer-term, rather than necessarily generating instant returns.

To conclude: collaboration on economic objectives and a more fully networked economy represent in tandem a promising model for progressive, high-wage development in Metro Vancouver, and for generating sustained, widely-shared prosperity. We're sceptical of narrow 'best practice' models of policy mimicry, as they often represent 'off the shelf' solutions to problems and opportunities that necessarily differ from place to place. As we have argued in this report, local contingency and place-specificity are important factors, as they influence the ways that global forces 'touch down' in individual city-regions. But there is at the same time (as we have discussed) clear evidence that a commitment to collaboration and a networked economy offer the best opportunity to deepen and diversify the Metro Vancouver economy, with its complex economic geography, and mix of gateway infrastructures, industrial clusters, and small and medium-size enterprise firms.



Appendices

I. Notes on Sources and Methodology

For this report we have drawn on primary and secondary sources, including an extended and deep literature addressing Metro Vancouver's development history. The basic trajectory of change since the 1970s – a decade encompassing the origins of formal statutory regional planning in the Metro area, and also the start of an important era of economic change – follows the broad pattern of restructuring of metropolitan industries, labour markets and employment experienced across advanced societies. Change took the form of the expansion of service industries and employment as well as an affiliated 'new middle class' of managers and professionals, along with the contraction of traditional resource industries. Vancouver stands as an influential example of this defining process of change.

All this underscores the importance of investigating (and understanding) what makes Metro Vancouver's economic pathway and structure distinctive, while at the same time assessing Metro Vancouver's position within extended urban systems, circuits of trade and exchange, and (increasingly) diverse cultures. Vancouver is exceptionally 'open' to external influences on its economy, industries and cultures. What follows is a concise description of important research initiatives and programs which we have participated in over the past decade, and from which we have drawn some of the critical insights and observations in our report. We also acknowledge the contributions of our research assistants for this project, Dustin Lupick and Erica Sagert, of the School of Community & Regional Planning, UBC.

Economic Change in the Canadian Urban System. Principal Investigators: Larry Bourne [University of Toronto] and Tom Hutton [UBC]). Social Sciences and Humanities Research Council funded project National Research Cluster program, 2006-2009. Key findings included a clear tendency for higher growth rates among Canada's 'big five' metropolitan economies (the Greater Toronto Area, Metropolitan Montreal, Metro

Vancouver, Ottawa and Calgary) relative to medium-size and smaller city-regions, and increasing divergence in the industrial structure and specializations among metropolitan economies, with both tendencies shaped by a combination of global forces, access to capital and talent, and the strength of local-regional clusters. Key output: Larry Bourne, Tom Hutton and Richard Shearmur (eds.) *Canadian Urban Regions: Trajectories of Growth and Change*. Toronto: Oxford University Press (2011).

Innovation, Creativity and Governance in Canadian City-Regions. A national study of key determinants of economic performance in Canadian city-regions, including an expert international advisory board as well as leading urban economy scholars based in Canadian universities, focusing on: dynamics of innovation and knowledge flows; the role of creativity and talent; and contributions made by new forms of governance in Canadian city-regions. Principal Investigators: David Wolfe and Meric Gertler. University of Toronto; Trevor Barnes and Tom Hutton (et al) Co-Investigators. SSHRC project 2006-2011. Key output: David Wolfe and Meric Gertler (eds.) *Growing Urban Economies: Innovation, creativity, and governance in Canadian city-regions*. University of Toronto Press (2016)

A Tale of Two Cities: Comparing the Economies of Greater Vancouver and the Seattle metropolitan region. Principal Investigators: Trevor Barnes and Tom Hutton. SSHRC project 2012-2016. Key findings include explaining contrasts in industrial structure between the two regions, and more particularly the greater strengths of Seattle in terms of propulsive firms and advanced-cluster formation shaped by entrepreneur-industrialists, the strength of collaborative governance and inter-sector and inter-industry networks, and commitments to preserving industrial land in the Seattle – Central Puget Sound region.

II. City-Regions and Economic Development: Twelve Key Texts

There is a wealth of insightful material on the organization of economies, industries, enterprise and labour within city-regions. Much of this literature deals with the conflation of global processes and local contingency in the economies of city-regions; with the synergy between technology, creativity and skilled labour in the economy of the metropolis; and with the importance of social, cultural and institutional factors in shaping successful, networked economies in city-regions.

In this spirit we recommend the following titles as instructive, research-based and policy-relevant texts, with broad relevance to the Metro Vancouver case.

Trevor Barnes, Jamie Peck, Eric Sheppard and Adam Tickell (2003) *Reading Economic Geography*. Oxford: Blackwell.

Larry Bourne, Tom Hutton, Richard Shearmur and Jim Simmons (eds.) (2011) *Canadian Urban Regions: Trajectories of Growth and Change*. Toronto: Oxford University Press.

Stefano Breschi and Franco Malerba (eds.) (2005) *Clusters, Networks, and Innovation*. Oxford: Oxford University Press.

Manuel Castells (1996) *The Rise of the Network Society, The Information Age: economy, society and culture*. Cambridge MA and Oxford: Blackwell.

Stefan Krätke. (2011) *The Creative Capital of Cities*. Malden MA and Oxford: Wiley-Blackwell.

Ronan Paddison and Tom Hutton (eds.) (2015) *Cities and Economic Change*. London: Sage.

Regional Studies Association (2014) *Sustainable Recovery? Rebalancing, Growth, and the Space Economy*. Seaford, East Sussex UK: The Regional Studies Association.

Allen J. Scott (2008) *Social Economy of the Metropolis: Cognitive-Cultural Capitalism and the Global Resurgence of Cities*. Oxford: Oxford University Press.

Michael Storper (2013) *The Keys to the City: How Economics, Institutions, Social Interaction and Politics Shape Development*. Princeton University Press: Princeton, NJ.

Michael Storper, Thomas Kemeny, Naji Makarem, and Taner Osman (2015) *The Rise and Fall of Urban Economies: Lessons from San Francisco and Los Angeles*. Stanford University Press.

P.J. Taylor and Ben Derudder (2004) *World City Network: a Global Urban Analysis*. New York and London: Routledge.

David A. Wolfe and Meric S. Gertler (eds.) (2016) *Growing Urban Economies: Innovation, Creativity, and Governance in Canadian City-Regions*. Toronto: University of Toronto Press.



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