# CONFLICT AND CRISIS IN VANCOUVER'S HOUSING MARKET: THE CHALLENGE OF MAINTAINING SOCIAL DIVERSITY IN THE CITY'S PURSUIT OF URBAN SUSTAINABILITY

A Supervised Research Project submitted to McGill University in partial fulfillment of the requirements of the degree of Master of Urban Planning
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# ABSTRACT

To help mitigate environmental vulnerabilities associated with climate change, pollution, and the use of non-renewable resources, cities around the world have undertaken urban sustainability initiatives to create greener, cleaner, and healthier living environments. The City of Vancouver, through its urban sustainability policy efforts, has consistently been ranked as one of the world's most livable cities and has earned itself the image of being clean, green, and environmentally sustainable. The greening and sustainability projects that the City has undertaken through its Greenest City 2020 Action Plan (GCAP), have created an economically competitive, attractive and healthy environment – yet at a very costly price which very few can afford. While the City adopted a social sustainability policy document, the city's current trends are moving away from its social equity goals. The city's housing costs have become out of reach for many middle-income individuals and families, and the city's low vacancy rates has displaced many residents to areas less dense, less supportive of a healthy environment, and less supportive of alternative mobility choices. To understand how environmental sustainability initiatives are distributed across income groups and the impacts of the high housing prices on the City's urban sustainability goal of becoming the greenest city by 2020, this research asks, 1) how is social equity addressed in the GCAP, and 2) what is the relationship between the City of Vancouver's housing crisis and the city's goal of urban sustainability. To achieve this goal, the report analyzes publicly available policy documents on urban sustainability from the City of Vancouver, news articles, and key informant interviews. The findings highlight that one explicit goal of the GCAP is to achieve global name recognition in the sphere of urban sustainability and a way of attracting not only interest but also investment. It is recommended that social equity policies and metrics should be included in future environmental sustainability plans in order to measure who benefits from the green amenity projects. Further, the City's new green building codes will likely not impact the cost of new condominiums as the price of housing is primarily determined by land value and demand. The codes however may impact the cost of single-family dwellings as individuals match the value of their asset to the value of their land. The housing crisis has the potential of impacting Metro Vancouver's and the City's overall goals of environment sustainability. In order to mitigate environmental harms, it is recommended that affordable housing policies to introduce a range of housing options are established to ensure the social diversity of the region.

# I | INTRODUCTION

In the early 1990s, the concept of urban sustainability emerged as a leading approach to building cities greener and cleaner to help mitigate environmental vulnerabilities associated with global warming, pollution, and the use of non-renewable resources. Since its introduction in the realm of urban planning, urban design, and architecture, urban sustainability principles have become widely adopted in cities across Canada, the United States, and Europe. Their overall vision focuses on the creation of livable and inclusive communities where residents can live healthy lives and have access to green spaces, opportunities for interactions, active modes of transportation, and locally sourced foods. In addition to amenities that enhance individuals' quality of life and the quality of the natural environment, healthy and aesthetically pleasing environments have become highly desirable places where many wish to reside, in part because they offer an easy commute to their workplace. Given the positive appeal of these environmentally sustainable neighbourhoods, urban sustainability strategies have been used by city leaders to boost their competitiveness by attracting high-tech and green industries, in an increasingly competitive global market.

Of the cities who have successfully implemented urban sustainability initiatives, many have gained recognition by planners, researchers, and journalists worldwide. Examples of such cities include New York, New York; Freiburg, Germany; and Vancouver, British Columbia. The sustainability initiatives put forth by New York City's Mayor Michael Bloomberg, have allowed the city to divert waste from landfills, reduce greenhouse gas emissions, invest in high-quality parks, and use cleaner and more affordable sources of energy. Freiburg, one of the earliest cities to implement urban sustainability principles, is another example of a city which has made successful strides in the realm of renewable energy, sustainable mobility choices, and strategic land-use planning. In Canada, Vancouver has long been touted as a beacon for environmental sustainability, livability, and a high-quality of life. The city's highly regarded success has been made possible by its policies which have guided the city's development to be environmentally friendly, from the design and material used for the construction of buildings to the creation of streetscapes for creating pleasant urban experiences.

While the cities noted above have been successful in implementing urban sustainability initiatives, they each struggle with social diversity and a high cost of living. Previous research has

demonstrated that the implementation of sustainability initiatives can increase the cost of real estate and displace original residents to areas less supportive of a healthy lifestyle. One of the biggest challenges in addressing sustainability strategies results from local governments failing to emphasize social equity within their sustainability plans. In a survey conducted in 2010 by the International City/County Management Association (ICMA) on sustainability policies and programs with over 2,000 local governments, social equity did not make it in the top three highest priorities (ICMA, 2010). A similar study completed later in 2012 also highlighted that very few local governments consider "social equity issues as an integrated part of . . . sustainability strategies" (ICMA, 2014, p.3). While there are market forces at play that increase the costs of high-amenity neighbourhoods, the fact that the enhanced livability features of green amenities can only be enjoyed by the rich highlights a problem central to urban sustainable development: social equity (Dale & Newman, 2009). This topic is further elaborated upon in Chapter 2 where a literature review covers the history of urban sustainability and social equity.

The City of Vancouver, which has gained considerable praise around the world for its city-building practices, struggles with one of the world's most expensive housing markets. While between 2001 and 2014 housing prices increased by 63% in Metro Vancouver, the cost of housing increased by 211% in the City of Vancouver (Vancity, 2015). The increasingly expensive housing market has been driven by the lack of support from senior levels of government, speculative investment by locals and foreigners, and increasing density. The widening gap between individuals' income and the cost of housing has also made the challenge of finding affordable housing, a particularly challenging task.

In 2011, the City of Vancouver established the Greenest City 2020 Action Plan (GCAP) as its urban sustainability blueprint for becoming the greenest city in the world by 2020. With over eighty per cent of the first priority actions implemented, 1) the inclusion of social equity policies within the action plan and 2) the relationship between the housing crisis and the City of Vancouver's urban sustainability goals have yet to be examined, and will be the focus of this report. Chapter 3 will present a detailed description of the methods undertaken to understand the two issues stated above. The report presents an analysis on publicly available policy documents on urban sustainability in the City of Vancouver, news articles, and key informant interviews. The participants interviewed were key stakeholders involved in the development of the GCAP, the Healthy City Strategy, and the

Housing & Homelessness Strategy, City staff from the Social Policy and Social Development department, staff from senior government housing agencies, staff from private and non-profit housing groups, academics, as well as developers and home designers active in the city's real estate industry.

The GCAP can provide insight into how the City of Vancouver is attempting to include social equity principles in its environmental sustainability policies and in the distribution of the eco-friendly projects. An in-depth analysis of the plan will also help determine whether the policies have impacted the city's cost of living, and whether the housing crisis has impacted the City's goal of becoming a leader in urban sustainability. A detailed description of the City's policies and Metro Vancouver's housing crisis is explained in Chapter 4 to clearly situate the findings of this research.

The main findings which are disseminated in Chapter 5, point to the challenges of addressing social equity in the development of environmental sustainability initiatives. These include the administration of policies, having sufficient funding and resources at the municipal level, and interdepartmental differences in addressing social equity in environmental sustainability plans. While the Social Planning department recognized and helped implement many of the social equity goals within the GCAP, the Sustainability department viewed the urban sustainability initiatives as a vital approach to attracting attention to the City. Regarding the relationship between the affordable housing crisis and the policies in the GCAP, the ramifications differ for new and existing single-family homes and multi-dwelling buildings. The biggest impact of the housing crisis is on the City of Vancouver's social and cultural diversity, and on Metro Vancouver's overall environmental sustainability goals.

To synthesize the key findings, Chapter 6 will provide policy recommendations to planners involved in the development of urban sustainability and affordable housing policies. Finally, Chapter 7 will conclude the report and explain the greater implications of the findings on the City of Vancouver and Metro Vancouver's future.

# II | LITERATURE REVIEW

The concept of urban sustainable development has gained traction among major cities across the world, and many have created sustainability plans to create more livable and sustainable cities. In Canada alone, Calgary, Montréal, and Vancouver, have all established their own long-term sustainability plans and strategies with a commitment to creating healthy and environmentally friendly communities. The significance of these initiatives has never been more imperative than now, particularly with the challenges that accompany the large concentration of city dwellers, such as congestion, climate change, and affordable housing for a range of income levels. With 72% of the world's population expected to live in cities by 2030, urban sustainability strategies provide cities the opportunity to guide their future growth and development strategies in a direction that enhances and protects the natural environment and reduces reliance on the use of natural resources. While these initiatives are undertaken to mitigate cities' impacts on climate change and create pleasant urban environments at the pedestrian scale, very few can enjoy these benefits. The amenities provided, ranging from access to green space, opportunities for active modes of transportation, access to locally sourced food, and an enjoyable public realm, come with a premium that increases the cost of living and consequently displaces many. This chapter begins by exploring the history of urban sustainable development by describing how urban planning ideologies have changed from the late nineteenth-century to the twenty-first century. It will then address the challenges that city planners face with the development patterns of the past and how they are working to address those challenges. Finally, it introduces the concept of urban sustainability and contemporary challenges in meeting social equity and affordable housing objectives.

## HISTORY OF URBAN SUSTAINABLE DEVELOPMENT

The concept of urban sustainable development first appeared in the early 1990s, in the form of grassroots activism and municipality led initiatives, supported by national governments and international agencies such as the World Bank and the United Nations (Wheeler, 2000; Timothy, 2012). The concept finds its birth in the term sustainable development which was established by the Brundtland Commission in the 1987 and defined in *Our Common Future* "as development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environmental and Development, 1987, p.8). Eight lines below this classic and commonly used definition, one reads: "sustainable development requires meeting the basic needs of all and extending to all the opportunity to fulfill their aspirations for a better life" (World Commission on Environmental and Development, 1987, p.8). Granted, Brundtland and fellow commissioners speak of basic needs and of the poor, but they make it very clear that sustainable development requires equity and that "[s]uch equity would be aided by political systems that secure effective citizen participation in decision-making" (World Commission on Environmental and Development, 1987, p.8). The definition also sought to bring awareness on a global scale to the consequences and impacts of economic development activities. It specifically highlighted how certain activities undermine the livability of the planet, deplete natural resources, and negatively affect the quality of life and living environment of neighbourhoods (Rydin, 2010). The 1992 Earth Summit conference in Rio de Janeiro further expanded on sustainable development by recommending that economic activity strike a balance between the three pillars of sustainability which include the environment, social equity, and the economy. This formulation was created to emphasize the states' and international communities' role in ensuring that activities related to the production and consumption of goods did not harm the natural environment and protected the well-being of residents (Wheeler, 2004). The conference also published a comprehensive action plan titled Agenda 21 which highlighted the vital role of local, regional, national and international organizations, and governments to take action in areas where human actions in the twenty-first century impact the environment (United Nation, n.d).

The first time an international agenda attempted to apply the principles of sustainable development to an urban context occurred at the 1996 United Nations Habitat II Conference, otherwise referred to as the City Summit. The Habitat Agenda II was published to advocate the

creation of high-quality housing for all, and cities that promote healthy living environments and embody livability and sustainability principles. While the document failed to garner much attention, it nonetheless highlighted the role of cities in creating environments that support the well-being of their citizens (Wheeler, 2009). Into the early twenty-first century, conferences such as the 2002 World Urban Forum at the UN-HABITAT in Nairobi, the 2002 World Summit on Sustainable Development in Johannesburg, the 2012 Rio+20 Declaration in Rio de Janeiro, and the United Nations System Task Team on the Post-2015 UN Development Agenda, continued the discussion on sustainable development by stating "that addressing the social, economic, and environmental issues was integral to the creation of sustainable cities and that the inability to address those issues would prevent the achievement of sustainable development" (United Nations, 2013, p.62).

As the population of individuals living in cities increases, there is a greater imperative to find sustainable ways to live through the delivery of better transportation options, waste management strategies, and protection of natural resources. The concept of urban sustainability considers how (1) activities resulting in environmental consequences in urban areas can be reduced, (2) economic development strategies could become more sustainable, (3) sustainability could be achieved in the local government to help realize the greater goals of sustainable development, and (4) how urban areas could help address concerns of climate change with increased urbanization. The latter, specifically looks at how development and transportation patterns in cities can be changed to promote a sustainable city and mitigate impacts of climate change as the number of individuals in urban areas increases (Rydin, 2010, p.12).

Urban sustainable development is thus the application of urban sustainability principles to create living environments that do not undermine individuals' well-being and the quality of natural resources. The concept of urban sustainability looks at creating dense, as opposed to sprawling, urban built forms where a range of individuals from diverse income groups can live together. It also explores how individuals' travel behaviors and their access to community amenities can be done in a sustainable manner. Projects such as urban farms and infrastructure that supports active modes of transportation are examples that aim to reduce pollution and particulate matter emissions. Likewise, waste management strategies also explore how city dwellers can reduce the amount of waste diverted to landfills. (Wheeler, 2000; Daniels, 2008)

The history of twentieth-century urban planning began with the work of early visionaries such as Ebenezer Howard, Patrick Geddes and Lewis Mumford who wrote on the need to improve the physical form of cities from the poor and overcrowded living conditions that took place in the mid-to-late nineteenth-century. A main theme that emerged among these writers was finding ways for people to live harmoniously with the natural environment. Ebenezer Howard was one of the earliest and most influential writers at the time. Motivated by the slum like condition of cities, his 1898 book *Garden Cities of To-morrow* provided a new way of thinking how cities can be designed. Howard envisioned self-sustaining communities bordered by greenbelts where the natural environment was protected and where individuals lived in close walking distance to the services they needed. The chief idea behind the Garden City was the creation of environmentally sustainable communities that allowed individuals to harmoniously combine the amenities of urban life with the natural environment, away from the central city (Howard, 1985). This idea however has drastically changed since today's city building practices which view cities as central to achieving urban sustainability.

Another influential writer, Patrick Geddes, wrote in *Cities in Evolution* (1915) about the problems of sanitation, public health, and pollution in early industrial cities and the importance of carefully planning communities to protect the natural environment and promote social order (Hempel, 2009). His work later inspired that of Lewis Mumford, whose 1924 *Sticks and Stones* and 1926 *The Golden Day* attempted to explain the consequences of industrialization and new technological advances on the social and environmental welfare of cities. Mumford believed that creating communities and livable places could be done by integrating and reconciling the natural environment and the city (Hempel, 2009). In his 1958 book, *The Highway and the City*, Mumford later argued that our dependence on the automobile was destroying our cities and that development should be done at the human scale. He noted that instead of expanding our cities with highways, we should focus on rebuilding and re-planning cities based on pedestrian circulation, as it is the most efficient and flexible mode of transportation (Mumford, 1958).

While these visionaries envisioned moving away from the overcrowded conditions of cities and finding alternative modes of transportation from the automobile, their basic solution was leaving the cities. Today, city building practices have fundamentally changed. Where cities were once

seen as unsustainable places to live, they are now seen as solutions to living sustainability by leveraging density, sustainable forms of transportation, and a green economy.

Today's movement towards building sustainable communities, from the planning to the design specification, originate from the Compact City, the New Urbanism, and Smart Growth movements, which emerged in the 1980s and 1990s through the work of several architects and urban planners. The movements aim to create livable places inspired by the traditional European neighbourhood and, to a certain extent, to the traditional American small town, where streets are pedestrian-oriented and village centers provide residents access to small shops, services and places of employment. They seek to promote the creation of neighbourhoods that are compact, pedestrian-friendly, mixed-use, protective of natural resources, and that provide individuals access to essential services such as schools, shops, and civic facilities, either by a quick transit trip or short walking commute (Jenks, Burton & Williams, 1996; Wheeler, 2009; Day, 2003; Handy, 2005). Individuals such as Peter Calthorpe, Jan Gehl, Robert Cervero, and Stephen M. Wheeler have looked at defining and re-shaping our neighbourhoods away from the suburban and automobile-dependent neighbourhoods that were built following World War II. Their ideas range from creating pedestrian-friendly neighbourhoods, high-quality public space, increasing density through infill development, and incorporating design, diversity, and density in the built environment to encourage public transit ridership (Wheeler, 2009).

Urban planning has fundamentally changed from the late-nineteenth century to today. While many of the visionaries of the past envisioned cities as problematic places to live, today, cities are viewed as a key way to achieve sustainability. It should be noted that this change in perceptions of urban life was a result of cities having changed greatly between 1900 and 1980. For one, the use of coal and wood has declined dramatically and slum conditions have greatly diminished. As the population living in cities continues to increase, the work of planners, designers, and architects has become imperative in making our cities sustainable through the availability of transportation options, waste management strategies, and programs that protect natural resources.

## PROBLEMS WITH FORMER AND CURRENT DEVELOPMENT PATTERNS

Much like the visionaries of the past who recognized the need to alter the built form of cities to promote social and environmental welfare, today's planners and municipal officials continue to recognize the need for change but with a new set of challenges. The expansion of urban boundaries has occurred at a much more rapid rate than population growth and has brought along with it many challenges (Wheeler, 2004). Our current development patterns have created an urban landscape that is fragmented and harmful to our urban environment and our health. Residential neighbourhoods have become less dense and freeways have expanded the boundaries of our cities and promoted an automobile dependent lifestyle. Over a century ago, individuals lived within walking distance or a streetcar commute to mostly everything they needed. Today, however, individuals' homes are located far from their workplace, shops, entertainment, and civic services (Wheeler, 2004). Instead of having small and locally sourced stores dispersed nicely within neighbourhoods, today, our major transportation corridors have become lined with over-scaled big box stores, warehouses, office parks, and strip commercial developments, only accessible to those with access to a private automobile.

The lack of diversity in land use and the type of transportation infrastructure built have also contributed to the expansion of sprawl and the development of commercial stretches along highway corridors. As essential amenities become dispersed, individuals are often forced to become dependent on the automobile as services are located too far to access without one (Handy, 2005; Lopez & Hynes, 2003, Wheeler, 2004). As a result of development patterns in suburban areas, the implementation of walking, transit and cycling infrastructure has been neglected as they are an inefficient form of transportation given the sprawling nature of services (Handy, 2005; Wheeler, 2004). This development pattern and the imposed dependency on the automobile have undermined the resilience, livability, and sustainability of our cities as we continue to contribute to global warming and slowly deteriorate our ecosystem and urban environment (Wheeler, 2004).

The expansion of urban boundaries has been enabled by subsidies provided for homeownership, ideals of living in the countryside, the rise in automobile ownership, and the expansion of highway and roads which has enabled individuals to have endless mobility. It has also been facilitated by race and class prejudice; a problem which has increased inequity between

different socioeconomic groups, as well as governments' interest in generating new sources of revenue through property tax. Arrangements by the growth coalitions made up of developers, corporations and politicians whose interest lie in generating private profit also contribute to the development of sprawl as land on urban peripheries is cheaper (Keil, Hamel, Chou, & Williams, 2015). While knowing the negative social and environmental consequences of building residential development at the urban periphery, developers continue to push their way at the expense of what others would truly benefit from (Wheeler, 2004). This, however, is a contentious issue as there continues to be strong demand for single-family homes in suburban settings.

The lack of affordable housing in urban neighbourhoods has also contributed to the divide and segregation of different socioeconomic groups. The housing industry primarily builds housing for the middle- to upper-class portion of the market and neglects building social housing and market rental housing (Wheeler, 2004). In Canada, there has also been little support or funding available for social housing from the time the federal government downloaded social housing programs and responsibilities on provinces and territories. The role of the Canadian government on housing policy and programs has in fact always been focused on the homeownership sector with providing first-time homeowners with a range of subsidy programs (Hulchanski, 2006). This uneven divide in attention has continued to increase the gap between the rich and the poor who cannot afford market-rate housing, and has exacerbated problems with housing inequity and widespread homelessness. It also undermines the directives of the Habitat Agenda II from the Istanbul City Summit in 1996 which called for the need to ensure adequate housing for all and human settlements that are livable, safe, and equitable (United Nations, 1996).

One of the consequences of suburban municipalities built around the automobile is the sedentary lifestyle that many residents are subject to. The low residential density, low connectivity of streets, and lack of infrastructure for walking and cycling have prevented many from meeting their requirements for physical activity that could enable them to live happier and healthier lives (Frank, 2000).

Together, these factors that have been shaping our urban landscapes have created cities and towns that are far from livable and stable. Our land consumption, use of nonrenewable energy, and inequitable development patterns are producing continuous environmental devastations and social

crises among different socioeconomic groups. The field and work of planners, architects, government officials, and non-governmental organizations has never been more pressing at a time where our actions undermine the livability of our planet, as the risk and the consequences of climate change increase with urbanization.

## SOLUTIONS FOR ADDRESSING THE CHALLENGES OF UNSUSTAINABLE DEVELOPMENT PATTERNS

To address the challenges facing cities in the twenty-first century, a myriad of initiatives and planning strategies have been undertaken by cities across North America and Europe. Planners, architects, and urban designers have applied land use, transportation, and development best practices as well as policies to improve the efficiency of their cities and minimize their impacts on the natural environment. This section will review a few of the key principles used to address these challenges including the 3D's of the built environment, Transit Oriented Developments (TOD), and the concept of New Urbanism. Lastly, it will examine different housing strategies used to enhance cities' social and economic sustainability.

The discourse on sustainable communities examines the different ways we can change the fabric of our cities to create a more livable environment by mitigating the risks of climate change and limiting the use of non-renewable natural resources. The concept of urban sustainability attempts to create environments that are responsibly supportive of this growth through urban planning policies and urban design guidelines (Rydin, 2004). As best described by Rydin (2010), urban sustainable development "considers how environmental impacts can be mitigated, how urban development may build resilience to climate change, and how economic and social dimensions of sustainability may also be delivered" (p.15).

From a transportation and urban sustainability perspective, municipal officials work to create environments where individuals are not dependent on automobiles. By offering individuals a substitute to the automobile, the goal is to encourage alternative mobility choices such as walking, cycling and using public transportation services. Enhancing the infrastructure for all mobility options provides the opportunity to reduce congestion, reliance on single-occupancy vehicles, impacts on climate change and expansion of urban boundaries. Such changes can happen by changing the form of the built environment by creating pedestrian-oriented landscapes and creating a dense environment through modifications of land use. The 3D's of the built environment – density, diversity and design – coined by Cervero and Kockelman in 1997 have been widely used by planners as a strategy to encourage non-motorized trips. First, density refers to population and employment density, and individual's access to employment opportunities. Second, diversity refers

to the different types of land use that allow individuals to access a variety of services in close proximity to one another. Lastly, design refers to the design of streetscapes, the quality of pedestrian infrastructure such as sidewalks and bike lanes, the connectivity and patterns of roads, and the numbers of intersections and blocks (Cervero and Kockelman, 1997. In essence, the 3Ds highlight three key elements in how the built environment could be enriched to create settings where individuals can live their day-to-day lives independent of the automobile.

In the late 1980's, Peter Calthorpe established the concept of TOD to address the challenges of automobile dependent lifestyles. The concept has widely been used as a solution to address the challenges of regional growth, urban sprawl and congestion (Carlton, 2007). In addressing the challenges of climate change and creating cities that are more environmentally sustainable, TODs bring together key amenities within 800m of transit hubs. These communities are created as compact and mixed-use developments where individuals have access to a variety of transportation choices and amenities such as housing, retail, schools, and recreational spaces (Institute for Transportation and Development Policy, 2017). Today, TODs are commonly found across major cities in North America and Europe, including Richmond, British Columbia; San Diego, California; and Amsterdam, Netherlands. By providing easy access to an assortment of shops, jobs, community amenities and transit, the Marine Gateway TOD in Richmond, British Columbia, has been a popular development of choice among young families and young adults. It is necessary to mention however, that the concept of TODs is not new. In fact, some European and North American cities were undertaking TOD projects way before the 1980s. By way of example, the "Finger Plan" of Copenhagen was first issued in 1947, and many similar plans followed. These forms of development nonetheless allow individuals to become less reliant on the automobile as a result of having access to essential services within a close walking distance to their homes. Ultimately, TODs developments provide a convenient solution to using environmentally responsible transportation options while reducing greenhouse gas emission.

Similar to the 3Ds of the built environment and TODs, the concept of New Urbanism has become widely used as a public policy and development approach to building cities at a more human-scale. New Urbanism encourages cities to design neighbourhoods with high-quality pedestrian realms that allow individuals to live an active and healthy style while having access to a range of services. New Urbanism also highlights elements such as diversity of housing types, public

spaces, and safe transportation corridors dedicated to pedestrians and cyclists as essential elements to creating neighbourhoods for an array of individuals with a range of different needs. To ensure a social mix in neighbourhoods with individuals of different socio-economic backgrounds, the provision of a range of housing options is among one of the key elements in the New Urbanism's Charter. Among housing strategies, the Missing Middle Housing approach was developed to address the gap in the housing market with the lack of diversity of homes found between the single-dwelling home to the mid- and high-rise building structure (Figure 2.1). By providing a spectrum of housing options such as duplexes, triplexes, and townhomes, all of which come at different prices, the Missing Middle Housing approach is an opportunity to create equitable neighbourhoods where a range of individuals can find a home suitable to their income and family size needs.


**Figure 2.1: Diagram of Missing Middle Housing Types**
**Source: Missing Middle Housing**

To maintain the social and economic sustainability of neighbourhoods, policies and incentives geared to the development community have been used to encourage the development of affordable housing projects. By way of example, in the City of North Vancouver where the cost of housing is ten times greater than the average household income, the municipality has established policies to support the development of a range of housing forms such as duplexes, co-operative housing, market rental housing, and social housing. To support the construction of affordable housing, the City has created an "affordable housing reserve fund, waived development fees on affordable housing projects and offered city-owned lands at below market prices for residential development" (Alexander & Tomalty, 2002, p.405). In exchange for providing affordable housing

units, the City has also provided developers density bonuses and reduced their parking requirements. Although the last significant stock of purpose built rental housing was built between the 1950s and 1970s through the support that developers received from senior levels of government, the City has finally been able to add 242 new affordable housing units since 2010. Likewise, to maintain the city's existing stock of affordable housing units, the Planning Department has provided extra density incentives to the development industry to encourage the retrofit existing rental buildings (City of North Vancouver, 2014). To address the challenges of an expensive housing market, the City continues to explore other ways of increasing affordable housing options and advocates for greater support from senior levels of government.

The policies and initiatives presented in this chapter, provided an overview of some of the key principles undertaken by planners to enrich the sustainability of their cities. These projects range from making alterations to the physical structure of neighbourhoods to creating environmentally sustainable features. Their overall aim is to help cities enhance their social, environmental, and economic sustainability by providing a healthy living environment and a range of housing options to diverse income groups.

## PLANNING FOR URBAN SUSTAINABILITY AND ITS CHALLENGES

To achieve urban sustainability that meets the challenges of increased urbanization and the risks of climate change, many global cities have established actions plans. The general goals set forth in these documents are to improve the current urban landscapes and guide future development in a sustainable and resilient direction. These documents provide planners with an overall guiding vision to work with various stakeholders and to bring change and improvements in all areas of the urban built environment (Rydin, 2010).

As most goals are expressed as high level concepts, the plans typically come with indicators to enable municipalities to measure their performance as they work toward their vision. To name a few, these measures range from calculating individuals' ecological footprints, levels of pollution, levels of congestion, tonnes of solid waste, access to green space, availability of housing supply, and the number of remediation projects of brownfield sites. Examples of sustainability plans include New York City's PlanNYC 2030 plan, the City of Vancouver's Greenest City 2020 Action Plan, and the City of Calgary ImagineCALGARY plan. Their overall theme focus on creating a better and a more sustainable future while being prepared to meet the challenges of urbanization and climate change.

Under the principles of urban sustainability, guided by the policy documents noted above, cities across the world have created sustainable and livable neighbourhoods that are aesthetically enjoyable and pleasant to live in. They provide individuals with access to green space and parks, multiple modes of transportation, a pedestrian-friendly environment, and many other amenities that allow the residents to live a high-quality of life. However, given the attractiveness and appeal of these neighbourhoods a premium gets placed on the amenities provided and the livable city becomes an expensive city (Chapple, 2015; Wachsmuth, Cohen & Angelo, 2016). Many of the green amenities also increase the price of land and housing, thus, making sustainable neighbourhoods affordable to very few. Given the division between who gets to benefit from the urban sustainability projects, it has even been argued that sustainability strategies have become commodified (Luke, 2005) and the projects serve consumers more than they serve the citizens living in those neighbourhoods (Soper, 2004).

One of the biggest challenges in addressing sustainability strategies comes from the fact that many local governments fail to emphasize social equity within their sustainability plans. In a survey conducted by the International City/County Management Association (ICMA) on sustainability policies and programs in 2010, with over 2,000 local governments, social equity did not make it in the top three highest priorities (ICMA, 2010). A similar study completed later in 2012, also highlighted that very few local governments consider "social equity issues as an integrated part of . . . sustainability strategies" (ICMA, 2014, p.3). Thus, while sustainability initiatives undertaken by cities create attractive environments that provide access to a variety of mobility choices, clean air, and a mixed-use environment, it appears that very little attention is given to social equity. The amenities provided increase the cost of living and displace working-class residents to areas less supportive of a healthy lifestyle.

While there are market forces at play that increase the costs of these neighbourhoods, the fact that the enhanced livability features of green amenities can only be enjoyed by the rich, highlights a challenge central to urban sustainable development - social equity (Dale & Newman, 2009). The term social equity finds its "foundations in social justice, distributive justice or 'fairness in the apportionment of resources', and equality of condition" (Dempsey, Bramley, Power & Brown, 2011, p.292). The pillar acknowledges the importance of equally engaging citizens in the redevelopment process of neighbourhoods and being aware of who gets to enjoy the benefits of urban sustainability projects. For the projects to be successful, they must be supported by citizens and distributed across a range of neighborhoods. If these environmental amenities are not evenly spatially distributed and predominantly benefit the wealthy, the projects risk gentrifying neighborhoods by increasing property value and displacing low-income residents; an issue termed as environmental gentrification (Gould & Lewis). In addition, when the rich and the poor become exposed to two different settings, urban sustainability is undermined. For the rich, they become less aware of the sustainability problems happening outside of their communities. For the poor, their deprived living environment continues to draw in more environmental bads as greening projects are not distributed evenly (Gould & Lewis, 2016).

In New York City, where many greening projects have taken place in recent years and have benefited the City's environmental and sustainability goals, the projects have undermined social equity. While the greening projects have improved some parks and increased the aesthetic appeal of

some neighbourhoods, they have not done so equally. Many of the neighbourhoods that have undergone greening improvements have gentrified and pushed out many of the original residents. The green amenities have drawn in the wealthy and further increased the gap between the rich and the poor. These types of consequences occur particularly when there are no policies in place to provide affordable housing options or measures to ensure the social diversity of neighbourhoods is maintained (Gould & Lewis, 2016).

Further, given the fact that the green amenities are not distributed nor affordable to all income groups, urban sustainable developments can promote social exclusion. As neighbourhoods become expensive, they draw in wealthy and homogenous groups of individuals and displace former residents who can no longer afford the new cost of living (Chapple, 2015). Unfortunately, many of these low-income earners become forced to live in environmentally deprived neighbourhoods throughout their lifetime. Even though the environmental justice movement advocated for better living conditions for lower-income and marginalized individuals since the late 1970s and early 1980s, some individuals continue being exposed to environmental conditions that negatively impact their productivity and overall well-being (Gould & Lewis, 2016).

Freiburg, Germany, one of the earliest cities to implement urban sustainability principles is an example of one city who has experienced this exact problem. Freiburg's success with the development of the Vauban and Rieselfeld neighbourhoods, has allowed the city to gain considerable attention for its success in implementing sustainability strategies. However, in the process of creating environmentally sustainable neighbourhoods, many social consequences have resulted. While the neighbourhoods were originally intended to provide a range of housing options to create a socially diverse community, the neighborhoods are now mainly occupied by homogenous middle- to upper-class residents. The success of Freiburg's sustainability initiatives and the praise that the City has received for creating an attractive environment has made the city more expensive and has priced out a huge portion of the city's population (Mossner & Miller, 2015). The urban sustainability initiatives incorporated within both projects thus laid the groundwork for gentrification by pushing out low-income residents.

One of the challenges associated with achieving social equity is perhaps the costs associated with urban sustainability development projects. Infill developments that provide developers and

planners the occasion to densify neighbourhoods by bringing together different types of land use, are costly. Land in urban areas is more expensive than land on the periphery. The task of designing developments on existing land or around existing buildings also comes with its own set of challenges as developers are required to obtain approval for the design and functionality of their projects. In addition, for infill developments to be economically reasonable for developers, the buildings must be built to a higher density and designed in a manner that is aesthetically appealing (Wheeler, 2004). Similarly, sustainability-oriented urban designs can be costly. For developers to undertake the costs associated with the provision of wider sidewalks, parks, greenways, water retention ponds, reserving natural wetlands and streams, the projects must be accompanied with some economic incentive (Wheeler, 2004). The material costs associated with building green and sustainable buildings is also another problem. During the development of the Olympic Village in Vancouver, BC, the City needed to reduce the number of affordable housing units it had originally planned. For the affordable housing development to have had the same architectural quality, design, and high-quality material as the market-rate apartments, the cost of the project had proven to be far more expensive than they had anticipated. Given the significant cost overruns, the number of affordable housing units made available for core need residents was reduced by half. While the City's intention was to cater the development to a wide range of income groups, the design criteria for undertaking the green and sustainable features had proven to be too costly (City of Vancouver, 2009). With the development built under sustainability principles, the development has become a neighbourhood mainly occupied by rich homogenous residents. While the development is physically green and built to high environmental sustainability standards, the low number of affordable housing units undermines the true sustainability of the development.

While the concept of urban sustainable development aims to create neighbourhoods that are environmentally friendly and avoid the use of non-renewable resources, there are many affordability and social equity challenges. The desirable amenities provided as part of these neighbourhoods often displace former residents, as a high premium gets attached to environmental features. It appears that these communities are often faced with the challenge of balancing environmental sustainability initiatives and the provision of resilient affordable housing policies that could accommodate diverse income groups.

By creating neighbourhoods that promote active modes of transportation, increase access to parks and green spaces, reduce solid waste, and improve the quality of air and water, cities reduce their risks associated with environmental consequences as an increasing number of individuals continue moving into cities. Given the attractiveness of these neighbourhoods however, a premium gets placed on the amenities which in the long term displace many of the original residents. Given the lack of consideration for social equity in the development of these projects at the municipal level, sustainability does more harm than good. Urban sustainability initiatives displace original residents as the cost of the neighbourhoods increase, intensify the gap between the rich and the poor, and expose the marginalized to lower environmental settings. While there are economic constraints associated with urban sustainability projects, an environmentally friendly neighbourhood that is capable of providing affordable housing options is more sustainable. As it currently stands, environmental sustainability projects narrowly focus on creating livable environments. The need for policies that ensure the provision of affordable housing in all developments is needed to create communities that are truly livable and sustainable for a range of income groups.

# III | METHODS

The purpose of this research is to investigate 1) how social equity is addressed in the City of Vancouver's Greenest City 2020 Action Plan (GCAP), and 2) what the relationship is between the City of Vancouver's housing crisis and the GCAP. This research examines the factors that influence the inclusion of social equity policies in urban sustainability planning at the municipal level, and the relationship between environmental sustainability initiatives and affordable housing. To achieve this goal, the report analyzes publicly available policy documents on urban sustainability in the City of Vancouver, news articles, and key informant interviews. Finally, this research concludes with the key takeaways and policy recommendations for planners involved in the development of urban sustainability and affordable housing policies.

This research began with an analysis of publicly available data. First, the City's urban sustainability and social sustainability policy documents including the GCAP and the Healthy City Strategy were analyzed to identify how social equity policies are addressed. This was followed by an analysis of the City's housing policies to identify the measures taken to address Metro Vancouver's and the City's affordable housing crisis. Lastly, online news articles were examined to obtain an understanding of people's concerns over environmental sustainability and affordability in the City of Vancouver.

Next, fifteen semi-structured interviews with key informants, including City staff, academics, developers, staff from private and non-profit housing groups, and staff from senior government housing agencies, were conducted in-person and lasted between 30 and 60 minutes each. The interviewees were key stakeholders involved in the development of the City's GCAP and Housing & Homelessness Strategy, City staff from the Social Policy and Social Development department, and individuals active in the city's housing and real estate industry (Table 3.1). The purpose of the interviews was to determine each stakeholder's opinion on the topics relevant to the research objective; understanding the relationship between social equity, urban sustainability, and affordable housing in the City of Vancouver. The interview guide and questions can be found in Appendix A. An ethics approval for the research was granted by McGill University's Research Ethics Board prior to the start of the interviews.

**Table 3.1: Research Participants**

| Interviewees area of involvement | Total Number of Interviewees |
|---|---|
| Greenest City Action Plan | 4 |
| Housing & Homelessness Strategy | 2 |
| Social Policy & Social Development | 2 |
| Housing & Real Estate | 4 |
| Academics | 3 |
| *Total* | *15* |

# IV | BACKGROUND

The City of Vancouver located in British Columbia has long been touted as a beacon for environmental sustainability, livability, and a high-quality of life. The city's highly regarded success has been made possible by its policies which have guided the City's development to be environmentally friendly, from the design and materials used for the construction of buildings to the creation of streetscapes for promoting pleasant urban experiences (Punter, 2003). As the City has gained considerable praise for its city-building practices by cities around the world, the term Vancouverism has emerged to capture its approach to urban planning, architecture, and urban design. The term illustrates an urban environment where a high-quality pedestrian realm allows individuals to comfortably walk to places, where sustainable modes of transportation are easy to use, and urban plazas are designed with attention to detail to create spaces that enrich city life. It also captures a place where buildings are designed to be mixed-use with medium to high-density to create compact neighbourhoods where residents have access to shops, services, and community facilities conveniently located near their homes. In addition to the City's efforts in creating livable communities, Vancouver's temperate climate and scenic views of the mountains and the ocean, protected by strict view corridor policies, have also attracted millions of visitors worldwide seeking access to the natural amenities. Many of these qualities have enabled the city to be ranked among the top cities in the world for being livable and sustainable. However, Vancouver's high cost of housing and low vacancy rates have made the city's livability title a paradox as very few can afford to live in the city. This chapter will first provide an overview of the City's policies on environmental and social sustainability, the city's housing crisis, and policies to address affordable housing. These documents include the Greenest City Action Plan, the City's environmental sustainability framework to place the city on the forefront of urban sustainability, the Healthy City Strategy as the City's Social Sustainability plan to make the city an equitable and supportive place to live, and lastly the Housing and Homelessness Housing Strategy which aims to improve housing options and affordability.

## THE CITY OF VANCOUVER'S MUNICIPAL CONTEXT

Unlike other municipalities in British Columbia, the City of Vancouver's statutory powers are granted by a unique provincial act referred to as the Vancouver Charter. In addition, while Official Community Plans (OCP) are required in other local jurisdictions in the province, as dictated by the Local Government Act and the Community Charter, the City of Vancouver is not included. Instead, the City's planning goals are outlined in various Official Development Plans (ODPs), its Regional Context Statement (RCS), and various municipal policy documents which are listed in Appendix B. The ODPs, at a local level, provide strict planning and development guidelines for identified development zones and neighbourhoods throughout the city. Some of the key objectives in ODPs include criteria related to urban design, urban sustainability, land use, and development. The RCS demonstrates how the City's existing plans and policies align with the regional district's (Metro Vancouver) Regional Growth Strategy (RGS). The RGS was unanimously accepted by all local governments with a commitment to accommodate the future growth of the region without compromising the sustainability and livability of neighbourhoods. Finally, a total of twenty-three policy documents, including the City's blueprint for urban sustainability titled the Greenest City 2020 Action Plan (GCAP), guide the City's overall vision, initiatives, and development projects. To adequately address the myriad of policy documents, the City's annual Corporate Business Plan (CBP) sets out the City's most important priorities to be addressed during that annual year to ensure the most immediate objectives are addressed.

## URBAN SUSTAINABILITY

The City of Vancouver's aspirations of becoming an environmentally sustainable city began under the 2005 – 2008 NPA council, led by Mayor Sam Sullivan. Council passed the EcoDensity Charter in 2007 to guide the City's future planning and development initiatives. With a vision to address the environmental consequences associated with climate change and a desire to create a livable, attractive, and an economically competitive city, the Charter highlighted the use of density, design and land use planning strategies to achieve this goal. These elements, particularly the strategic use of density, were established as important criteria to lead the city in the direction of environmental sustainability, introduce urban agriculture, enable active modes of transportation, and create more compact neighbourhoods. To support the City's goals of ensuring social inclusion, the Charter also highlighted how the efficient use of density could be used to create new forms of housing that could help increase the city's stock of affordable housing options. The policy document provided the development of laneway homes (a small detached home built where a rear garage would be found), secondary suites, mid-rise buildings on arterial roads, and interim rezoning policies as strategies to achieve a greater spectrum of housing options in the real estate market (City of Vancouver, n.d.). The Charter acknowledged that the presence of affordable housing and a range of housing options were keys ingredient to ensuring the social mix of neighbourhoods and maintaining the City's status as a leader in the development of livable communities. However, with the City of Vancouver primarily zoned for single-family dwellings (City of Vancouver 2016), many communities feared the changes that density would bring to the atmosphere of their neighbourhoods through infill developments and laneways homes. The EcoDensity Charter also faced opposition and pushback from community members as many believed that the plan was greenwashing the city and the development industry, and density bonuses would only financially benefit developers and worsen the city's escalating housing prices (Fontaine, 2013; Sarkissian, 2014; Villagomez, 2008; CBC News, 2008; Boddy, 2008; Woolley , 2007)

The declining popularity of Sam Sullivan, as well as the community's opposition to the EcoDensity Charter, brought a new council to the office in late 2008. The party titled Vision Vancouver became led by Mayor Gregor Robertson, who still holds office to this day. The Vision team later introduced the "Greenest City 2020 Action Plan" (Murphy, 2014), a new policy document with a different approach to raising the city's urban sustainability profile. While many claim that the

EcoDensity Charter was rebranded as the GCAP, the two policy documents are significantly different in regard to their policies.

By engaging over 35,000 residents, business owners, City staff, and organizations the Greenest City 2020 Action Plan was created in 2009 with a vision "to create opportunities today while building a strong local economy, vibrant and inclusive neighbourhoods, and an internationally recognized city that meets the needs of generations to come" (City of Vancouver, 2012). The GCAP was adopted by Council in 2011 and has since been the City's blueprint for becoming a leader in urban sustainability and preparing the city against environmental challenges (City of Vancouver, 2016a).

The action plan has three overarching themes: zero carbon, zero waste, and healthy ecosystems. They are guided by ten "visionary" goals, and fifteen baseline and target numbers which provide a basis to annually measure how well the actions are implemented and how the Greenest City goals are performing relative to their desired target (Appendix C). The ten goals identified within the plan include having access to clean natural resources such air and water, creating a green economy, ensuring that buildings are environmentally friendly in their design and operation, and facilitating opportunities for active modes of transportation. A detailed list and description of these goals can be found in Appendix C. Further, the GCAP has been divided into two: a set of priority actions to be achieved between 2011 and 2014 and a second set of priority actions to be executed between 2015 and 2020.

As the City quickly approaches the year 2020, eighty per cent of the 2011-2014 priority actions have been completed to date. According to the latest policy documents, the City claims that the remaining twenty per cent have proven to be too costly to implement, are no longer necessary, or have been included within other policy documents. Although these documents have not been specified, City Council approved in November 2015 the "Renewable City Strategy" with a new goal of Vancouver "deriving 100% of its energy from renewable sources by 2050" (City of Vancouver, 2016b). There is a possibility that the previous priority items within the GCAP have been moved into this policy document. Further, as the City begins to complete the second set of priorities in the GCAP, an additional 50 priority actions have been created and are to be completed between 2015 and 2020 (City of Vancouver, 2016a).

Of the 2011-2014 priority actions, the City has made significant process in many areas of urban sustainability including:

- increasing trips made via active modes of transportation to fifty per cent
- reducing greenhouse gas emission and energy use of existing buildings by twenty per cent
- increasing neighbourhoods' access to food assets by thirty-eight per cent
- increasing the number of green jobs by nineteen per cent
- increasing the number of carbon emission in new buildings by thirty per cent
- increasing individuals' access to nature by planting over 48,900 new trees (City of Vancouver, 2016b).

While the action plan was created with aspirations of becoming a green and recognizable global city, as well as a place that preserves the environment for future generations, it is also done for "economic growth and green wealth generation" (The Global Fund for Cities Development, 2012). Since the creation of the GCAP, the City claims to have earned itself a brand worth up to $31 billion and has been recognized for being "green, clean and sustainable" (City of Vancouver, 2016b). As explained by a senior City staff at the City's Sustainability Department, the plan's "goal [is] to attract attention so other people will talk with us". With the city's reputation described by the Vancouver Economic Commission "as a forward-looking and sustainable city", the economic development organization is working to leverage the city's brand by strengthening the Green Economy sector. Some of the subsectors currently helping the city boost the number of green jobs range from sustainability services, recycling and waste management services, local food producers, and clean product and technology manufactures supporting local businesses and the construction industry (Vancouver Economic Commission, 2017).

In an attempt to reconcile environmental sustainability priorities with social sustainability goals, City staff noted that the plan's goals and targets are created to benefit everyone residing in the City of Vancouver. They further added that the plan ensures that all individuals regardless of their income or residential neighbourhood can benefit from clean air and water, and have access to nature, secure food assets, and sustainable modes of transportation. However, while City staff are incorporating an equality dimension to plan, where everyone can enjoy the environmental amenities,

it appears that neither the amenities nor the plan are created to address systemic inequalities where vulnerable residents may require some environmental amenities more than others.

Further, the City staff added that the department continually ensured that the implemented goals reflect best practice and communities' needs. For instance, while the original goal of access to nature was to ensure that everywhere within the city was within a five-minute walk to a park, the new goal now considers population density. Thus, a greater need for access to parks is considered for neighbourhoods where the population density is the highest, as the individuals residing within them may not have their own private backyards. Further, the plan also strives to create green employment opportunities that benefit a variety of individuals with a range of skill sets. A total of forty-five per cent of the job opportunities created under this goal will be available to those facing employment barriers. This is being done through partnerships and the implementation of projects that provide training and employment opportunities. Examples provided by the City include construction jobs and urban farming. The City is also requiring all buildings built 2020 onwards to be carbon neutral in their operations and has made changes to its building codes by requiring existing buildings to become twenty per cent more energy efficient in the event of a renovation or building upgrades. The long-term vision is to have residential buildings that are green in operation but also provide individuals with high-quality housing conditions.

With the goal of raising the City's urban sustainability profile, the plan's policies focus on creating an environmentally sustainable city by making active transportation choices an easy option, increasing the environmental performance of buildings, and improving individuals' access to the natural environment. While City staff are ensuring that all individuals can benefit from the environmental amenities created, it appears that an equity dimension and a focus on individuals is missing within the framework of the policy document. Majority of the metrics within the document are baselines and targets which include but are not limited to the number of food assets, green jobs, vehicle kilometers, trees, and levels of carbon dioxide emissions.

## SOCIAL SUSTAINABILITY

Following the adoption of the City's environmental sustainability plan in 2011, the City of Vancouver adopted three years later a social sustainability policy document titled "A Healthy City for All: Vancouver's Healthy City Strategy". With the City recognizing the challenges of an aging population, rising cost of housing, and barriers to finding well-paid employment opportunities, the document was established as a framework to create an environment supportive of individuals' social health and well-being. The welfare of residents as well as an environment that supports social mix were recognized as key ingredients to support the City's resiliency and overall goal of urban sustainability. By consulting over 10,000 individuals including City staff, stakeholders from senior levels of government, academics, staff from non-governmental organizations, and community members, the Healthy City for All leadership team developed a set of goals and targets related to equity and social sustainability. From the initial 1,300 ideas generated during the development stages of the project, the team established 13 long-term goals to be achieved by 2025 and 19 actions to be worked towards during the first implementation stage of the strategy between 2015 and 2018. Some of the long-term goals included access to affordable housing, a decent living wage, ending homelessness, increasing access to open space, and improving access to childcare services (City of Vancouver, 2014). The full list of the goals and 2025 targets can be found in Appendix D.

With an overarching goal of ensuring social equity and healthy communities for all residents, the plan's vision was established as "a city where together we are creating and continually improving the conditions that enable all of us to enjoy the highest level of health and well-being possible" (City of Vancouver, 2014, p.10). The plan also included three areas of focus: first, creating healthy environments where individuals have access to essential services, feel safe, and have access to shelter and transportation options; second, creating healthy communities where individuals can make connections with their neighbors and create resilient support networks; and third, creating healthy environments that consider social, economic and environmental goals to allow individuals to live healthy lives today and into the future (Figure 4.1) (City of Vancouver, 2014).

Further, while some of the goals included in the plan are present in other City policy documents, the Healthy City Strategy helps to fill the gap in areas where social sustainability is lacking in the City's existing policy documents. The goals range from increasing the number of

affordable housing, ending street homelessness, improving access to childcare services, increasing food assets, reducing poverty, and increasing opportunities for lifelong learning. With a "Healthy City for All" at the center of the City's policy documents, these elements are highlighted as vital features that individuals must have access to in order to support the City's long-term policies and objectives (City of Vancouver, 2014).

Since the implementation of the Healthy City Strategy in 2015, following the adoption of Greenest City Action Plan and Vancouver Economic Action Strategy (the City's economic sustainability action plan) in 2011, the City of Vancouver has become more balanced by adding a social sustainability plan to its policy documents. Since establishing the plan, the City has made itself accountable to its constituents by creating targets that aim to make the city more equitable amidst environmental, economic, and affordable housing challenges.


**Figure 4.1: The elements of the "Healthy City Strategy" and its connection to other documents**
**Source: City of Vancouver**

## A HOUSING CRISIS

The City of Vancouver's efforts to create sustainable, livable and well-planned neighbourhoods have allowed the municipality to be ranked among the top cities in the world. In 2016, the city was ranked the world's 3rd most livable city by *The Economist* (The Economist, 2016), and in 2012, it was ranked as North America's 2rd greenest city by *Siemens* (Siemens, 2012). The City's achievements in creating a sustainable and livable environment however, has become a paradox as many individuals have been priced out of the city due to its high cost of housing. In 2016, the Demographia International Housing Affordability Survey ranked Metro Vancouver's housing market as the world's third most expensive city following Hong Kong and Sydney, respectively (Demographia & Performance Urban Planning, 2016). To understand how the City of Vancouver is attempting to address social and economic sustainability, this section will first provide an overview of the latest statistics on Metro Vancouver's housing market.

The Canada Mortgage and Housing Corporation defines affordable housing as housing that costs households less than 30% of their gross household income (Canadian Mortgage and Housing Corporation, n.d.). This percentage is considered a healthy rate as it allows individuals and families to have sufficient income remaining to meet other basic needs such access to food, clothing, recreational activities, and transportation services. With the shifting priorities of senior levels governments as well as declining public and private investments in the provision of affordable rental housing, the Canadian housing market has faced significant challenges. Across Canadian cities, finding affordable housing, particularly rental housing, has become a great challenge. In Metro Vancouver, the rental vacancy rate was recently listed at 0.7% (Canadian Mortgage and Housing Corporation, 2016), significantly below the 5% rate indicative of a healthy rental market (Wachsmuth, 2016). In addition to a low vacancy rate, the gap between households' income and housing prices has also been widening for many years. While the median household income in Vancouver's CMA increased by 9% between 1979 and 2008, the price of single-family homes increased by as much as 480% in the City of Vancouver (City of Vancouver, 2011). This unsustainable growth has increased the demand in affordable housing. In addition, it has also made homeownership impossible for low- and middle-income families, causing many to be displaced elsewhere to find suitable housing options. With respect to financial security and stability, the drastic figures noted above have also failed many households who have decided to reside in the city. In

2011, over 28.9% of owners and 46% of renters in the City of Vancouver spent more than 30% of their income on shelter costs (both values being 1.3% higher than the region's average) (Statistics Canada, 2011). These descriptive statistics of Metro Vancouver's and the City of Vancouver's housing market highlight the lack of affordable housing and the pressure many residents face in covering basic housing costs.

The housing crisis of the Metro Vancouver region has received a great amount of attention from researchers analyzing the various factors impacting the real estate market. While the literature points to several issues giving rise to the housing problem, three factors are described below to provide context to the issue.

First, the lack of support from senior levels of government has made it increasingly difficult for municipalities to build adequate social housing and purpose built rental housing (Gurstein, 2012; Wachsmuth 2016). This lack of support has made it progressively harder for households to choose from a range of housing options that suit their budget. With a tight supply of rental housing, many are forced to spend far more than 30% of their income on housing. This, however, has not always been the case. Beginning in the 1930s and following WWII, the federal government supported the housing market by providing individuals and families a range of programs such as government mortgage insurances, investments in social housing, as well as incentives and subsidies geared towards the development market for the construction of rental housing. Following the amendment of the National Housing Act in 1973 to ensure that all Canadians were adequately housed, 20,000 social housing units were created every year to support those in most need. Many of the problems that persist today result in part from senior levels of government retreating from their previous roles in supporting affordable housing programs in 1984. By 1993, the federal government fully cut back their spending on the construction of new social housing and by 1996, the federal government downloaded its responsibilities for building low-income housing onto the Provinces and Territories (Hulchanski et al, 2009). The shortage of affordable housing in the City of Vancouver and Metro Vancouver could have been prevented if senior levels of governments had continued to build social housing and provided the development community with incentives and subsidies (Gurstein, 2012). Today, the new sources of market rental housing in Vancouver are provided through secondary suites where more than half of renters current reside (Gurstein, 2012).

Second, international speculative investment in the Vancouver housing market, particularly in high-end housing, has caused a surge in real estate prices (Wachsmuth, 2016; Ley, 2017). The issue dates back to the Business Immigration Programme that was implemented by the Federal Government to promote the immigration of business owners in exchange for a significant loan to the government. With Metro Vancouver having a high-quality of life and a well-established port, it became a popular destination of choice among wealthy business owners and their families. Of those who participated in the program, it is estimated 80 to 85% were from Greater China, thus making Vancouver an even more attractive destination given its proximity to the Asia-Pacific market. It has been also estimated that between 1988 and 1997, approximately $35 to $45 billion dollars arrived just in Greater Vancouver. As the wealthiest newcomers made their way in Vancouver, many of them purchased the city's most expensive homes for investment purposes which eventually impacted the city's already expensive housing market. Greater Vancouver's most recent benchmark price for detached properties was at $1.4 million in February 2017, which represents a seven per cent increase compared to the previous year (Real Estate Board of Greater Vancouver, 2017). While both the provincial and municipal government have benefited from the property tax generated from the multi-million dollar properties, the high cost of the housing market has had a devastating impact on Vancouver's residents who have lived in the city for many years (Ley & Tutchener, 2001).

Lastly, the increasing density of Metro Vancouver has done little to address the affordability crisis. The increasing density has in fact been accompanied by a major reduction in the city's affordability (Gurstein, 2012). Although the percentage of single-detached homes has decreased and the number of high-density buildings has increased in the Vancouver CMA (Gurstein, 2012), housing prices have increased by 63% in Metro Vancouver and 211% in the City of Vancouver between 2001 and 2014 (Vancity, 2015). It has been suggested that the increasing density has been "a response to [the] escalating land costs that is ultimately at odds with affordability" (Gurstein, 2012, p.1). While in theory more density and supply should lower housing prices, the form of housing built in Vancouver has primarily been high-rise buildings with small condominium units. Given the city's heated real estate market, this form of dwelling provides developers the opportunity to make the largest profit. There are concerns that this form of density has had further negative consequences on affordable housing. The introduction of the appropriate type of housing, such as purpose-built rental housing, would have had a more positive impact on affordability. Thus, while density typically equates to affordability, the type of housing built by developers has done little to

help affordability. Further, given the increasing land value in Vancouver, there has also been a large incentive for building owners and operators of low-income buildings in the Downtown Eastside to sell their properties to speculative investors. The presence of protective measures such as a one-to-one replacement of affordable housing units in the redevelopment of projects, is crucial in maintaining the number of affordable housing units in city. Nonetheless, these trends accompanied with increasing density have created concerns over the displacement of vulnerable populations and the homeless.

With an increasingly expensive housing market driven by the lack of support from senior levels of government, speculative investment by foreigners, and increasing density, Metro Vancouver and the City of Vancouver are faced with the challenge of providing their residents with affordable and decent housing. The next section will explore the programs implemented by the City of Vancouver to support its existing residents and promote the diversity of mixed-income groups within its municipal boundary.

## AFFORDABLE HOUSING STRATEGIES

Prior to the city's affordable housing and rental vacancy crisis, the City of Vancouver adopted in 2011 a 10-year Housing and Homelessness Housing Strategy to address the pre-crisis status quo of its housing challenges. The plan was created to ensure the city's social and economic stability and to secure a stock of affordable housing options by creating a "Housing Continuum" consisting of a range of housing options for a range of householders with different income levels. (Figure. 4.2). In the context of addressing the investments the City will put towards affordable housing, the document highlights the collaboration required from senior levels of government, community members, and other stakeholders to achieve the goals identified in the document. The policy document's three strategic goals and direction include: increasing the supply of affordable housing; encouraging different forms of housing across the city's neighbourhoods; and providing support to partners to promote social and rental housing developments.

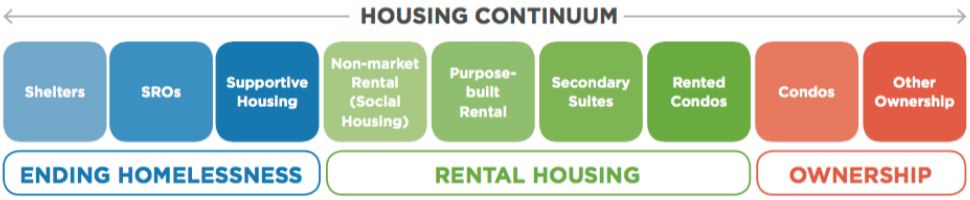


**Figure 4.2: The Housing Continuum**
**Source: The City of Vancouver**

Later in 2012, the City established the Mayor's Task Force on Housing Affordability to explore policy solutions for affordable housing for low- and middle-income households. In 2014, the City created the Vancouver Affordable Housing Agency (VAHA) to implement the recommendations made by the task force. The Housing Agency has been acting as an independent agency of the City that leverages the City and its partners' land to build a range of housing forms that meet the City's goals of improving affordability for a range of income levels. The agency has four goals: first, to ensure that the council's goals and priorities have sufficient resources to be completed; second, to ensure that the delivery of affordable housing is done quickly and in a transparent manner; third, to identify innovative solutions to address the housing crisis; and lastly, to evaluate the delivery and performance of the municipal government's efforts in the delivery of its housing strategy.

With over 51% of the city's residents as renters, the City has also set in place a variety of programs and policies to secure the tight stock of market rental housing for low and moderate income households. These policy measures are significant changes in the City as no policy had previously existed to support rental housing. The initiatives implemented include the Rental 100 program, the Rate of Change policy, and the development of secondary suites and laneway housing. The Rental 100 program encourages the development of 100 per cent rental units by providing developers relief from having to pay certain levies, removal of some requirements, additional density, and a variety of other incentives. As developers building market rental housing must compete for the same expensive land as private developers building condominiums, the initiative makes it financially more feasible for those building purpose-built rental apartments. While condo developers can afford to pay approximately $100 per square foot for land, rental developers can only afford to pay approximately $25 per square foot (City of Vancouver, 2012b). Further, to prevent the disappearance of rental units in the city, the Rate of Change policy was implemented which requires that upon the redevelopment of a project, all rental units much be replaced at a one-to-one ratio. Lastly, development policies were created to encourage the development of laneway homes and secondary suites to promote a diversity of built forms and housing tenure in single-family neighbourhoods.

Since the implementation of the City's Housing and Homelessness Strategy, the City has been keeping track of its progress to identify how its targets are being met. Having reached the halfway point in the 10-year action plan, the City of Vancouver has:

- contributed over $600 million since 2012 towards affordable housing
- enabled the development of 5,100 new market rental homes and 12,000 affordable homes through its policies and partnerships
- created the strongest tenant protection policy in the province
- established the VAHA to help create an additional 2,500 affordable homes by 2021

To maintain the city's economic well-being and vitality, affordable housing options are necessary to secure opportunities for a range of people to reside within the city (City of Vancouver, 2017). To continue the momentum in creating affordable housing, the City intends to continue

implementing policies to protect rental housing and create a range of housing types. The City of Vancouver's urban sustainability goals depend on the success of implementing different forms of housing. With over 50% of the city zoned for single-family housing, this may include having honest conversations with residents to rezone parts of the city and most importantly educate them on the importance of social diversity.

The Metro Vancouver housing crisis has presented the City of Vancouver with the challenge of identifying ways to protect the well-being of its residents from the vulnerabilities of having one of the most expensive housing markets in North America. Together, the Greenest City Action Plan and the Healthy City Strategy act as the City's platform to ensure that individuals are protected from social and environmental harms, such having little access to essential services and climate change. Similarly, the VAHA and the implementation of the new policies have provided the City with strategies to address the housing crisis by protecting the existing stock of rental housing and making the development of new rental projects financial feasible for developers. The reputation of the City depends on the how well the administration and its constituents can implement the policies and strategies covered in this chapter.

# V | FINDINGS

While the Metro Vancouver housing market has increased by 63% between 2001 and 2014, the increase has been the highest in the City of Vancouver at 211% (Vancity, 2015). With the implications of urban sustainability initiatives on social equity and affordability goals, this Chapter will share the findings of how the City of Vancouver addresses social equity in its environmental sustainability plans; how the city's greening policies, particularly its green design and energy efficiency requirements, impact affordability; and lastly how the affordable housing crisis is impacting the City's goals of urban sustainability. One of the biggest challenges in addressing social equity in the City's environmental sustainability plan is the degree of understanding the relationship between population and environmental health across Departments, having adequate funding, and having adequate resources and time to complete social equity initiatives. On the relationship between the GCAP and affordability, the findings suggest that the City's new green building codes will have different impacts on the cost of new and existing residential buildings and single-family and multi-family dwellings. While energy efficiency standards in new multi-dwelling buildings will decrease the cost of utilities, it is unlikely that they will make housing more affordable for those struggling to enter or remain in the market. In fact, the cost of the green amenities will be passed onto the buyers for market-rate condominiums. For purpose-built rental buildings, the payback of the green construction codes were noted to be rapid and beneficial for building operators through saving opportunities in operation costs. For existing single-family homes, the cost of housing will likely continue to remain as high, if not slightly increase as individuals match the value of their asset to the value of land. This value will not be significant however, as the cost of housing in Vancouver is dominated by the cost of land. Lastly, one of the biggest concerns of the new building codes is their impact on the city's purpose-build rental housing, where the cost of redeveloping is significantly more financially feasible.

## DISTRIBUTION OF THE GCAP PROJECTS

With over eighty per cent of the GCAP initiatives completed to date, policy documents and City staff claim that the success of the City's greening initiatives has been made possible by the support of the City Council, residents, local businesses, and the partnerships the City has made with non-governmental organizations and academic institutions such as CityStudio. Of the 323 projects implemented, over one third of the projects appear to have been fulfilled privately, while the remainder have been implemented through the City's projects, the Greenest City Fund, and CityStudio (Table 5.1).

**Table 5.1: Projects Contributed by Different Groups**

| Projects Implemented by | Total Number of Projects | Percentage |
|---|---|---|
| Greenest City Fund | 145 | 44.9 |
| City | 36 | 11.1 |
| City Studio | 21 | 6.5 |
| Private | 121 | 37.5 |
| *Total* | *323* | *100* |

Of the 10 goals identified in the plan, the three goals with the most implemented projects include "Access to Local Foods", "Clean Air", and "Lighter Footprint" (Table 5.2). An analysis of the specific projects undertaken in these categories highlight the following trends. A majority of the "Access to Local Food" projects have taken place in the Strathcona and Mount Pleasant neighbourhoods. Strathcona is primarily known as the city's low-income neighbourhood, with the Downtown East located in the north. A majority of the projects completed under the "Clean Air" goal have taken place in the city's Downtown and West End neighbourhood. The projects implemented under this goal have only been electric charging vehicle stations. Lastly, the projects implemented under the "Lighter Footprint" category have primarily been the donation of "small community grants" to the West End, Kitsilano, Collingwood, and Mount Pleasant neighbourhood. The location of these projects can be viewed in Figure 5.1. These findings suggest that the City has been most successful in increasing access to local foods in various parts of the city, and primarily in low-income neighbourhoods (Figure 5.2). The projects implemented under "Clean Air" category are

primarily beneficial to a narrow segment of the population, typically middle- to higher-income earners who have access to electric vehicles. Lastly, the impacts of the "Lighter Footprint" projects are challenging to comment on as there are no details on how the grants have been used by the communities that have received them. While a greater number of projects have been implemented as part of the GCAP, some are not included in the City's open data files given their nature. For example, while the City has met its "Green Transportation" targets of having over fifty per cent of trips completed by means of active modes of transportation and reducing the average vehicle kilometer driven per resident, this is not considered a specific "project" where x and y coordinates could be used to illustrate the location of the project. The achievement of this target does however suggest that greater mobility choices have been provided to the city's residents and the quality of air may have improved.

**Table 5.2: Distribution of the GCAP Projects across the City of Vancouver's Neighborhoods**

| Greenest City Action Plan Projects | Total Number of Projects | Percentage |
|---|---|---|
| Green Buildings & Local Food | 1 | 0.3 |
| Climate Leadership | 3 | 0.9 |
| Green Economy | 5 | 1.5 |
| Green Transportation | 13 | 4.0 |
| Food Waste | 17 | 5.3 |
| Access to Nature | 24 | 7.4 |
| Green Buildings | 25 | 7.7 |
| Lighter Footprint | 30 | 9.3 |
| Clean Air | 33 | 10.2 |
| Local Food | 172 | 53.3 |
| *Total* | *323* | *100* |

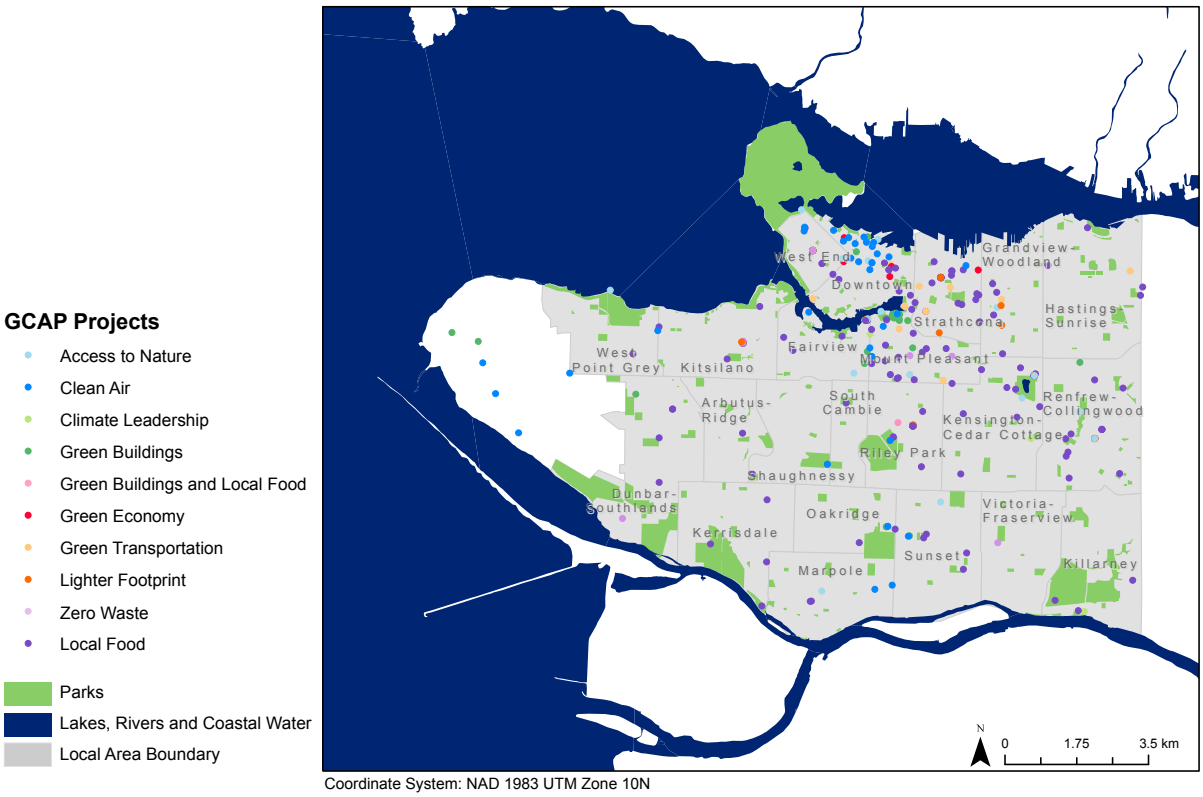


**Figure 5.2: Distribution of the GCAP Projects across the City of Vancouver's Neighborhoods**
**Data: Open Data Catalogue, City of Vancouver**

## ADDRESSING SOCIAL EQUITY IN ENVIRONMENTAL SUSTAINABILITY

In 2005, the City of Vancouver adopted a definition for Social Sustainability as its guiding principle for future development, and defined it as follows:

> *A sustainable Vancouver is a community that meets the needs of the present without compromising the ability of future generations to meet their own needs. It is a place where people live, work, and prosper in a vibrant community of communities. In such a community, sustainability is achieved through community participation and the reconciliation of short- and long-term economic, social and ecological well-being (City of Vancouver, 2005).*

Although the City had always incorporated social sustainability principles into its city building projects, the adoption of this definition was recognized as an important step to ensure the city's overall success in achieving sustainable development. It was also done to encourage the inclusion of social sustainability in all projects moving forward and support community members with their basic needs. The three elements that encompassed social sustainability included providing individuals with access to adequate housing and income, supporting the development of their personal skills, and helping residents foster connections to enhance the development and vitality of their neighbourhoods.

The City's approach to increasing density has allowed the municipality to meet many of its sustainability goals. Dense and mixed-use developments have allowed planners to create neighbourhoods that are less reliant on the automobile, supportive of active modes of transportation as amenities are closely located to each other, and less demanding on limited resources such as clean air and land. However, in the process of bringing communities to a sustainable built form, walkable and dense redevelopment projects have often pushed out the working class and attracted urban elites who further gentrify neighbourhoods, and reinforce high real estate values and social exclusion (Quastel, Moos & Lynch, 2012; Gould & Lewis, 2016).

In 2008, *The Province* published an article of the Vancouver Police Department (VPD) having difficulties recruiting and retaining police officers. They explained that the city's lack of affordable housing deterred many from applying to the VPD and existing staff were beginning to seek

employment opportunities elsewhere in hopes of purchasing a home at a reasonable price. The Department also shared that only eighteen per cent of their employees lived in the city, with many travelling in from suburban municipalities including Abbotsford and Chilliwack (Chan, 2008).

Upon sharing these concerns with City staff, all of respondents stated that the GCAP is meant to place the city on the forefront of environmental sustainability. They noted that other city documents existed to help support the equity challenges that accompany environmental gentrification and the municipality's high cost of living. The main document intended to support the social sustainability and diversity of the city was identified as the Healthy City Strategy. As noted by a senior planner, other policy documents also existed to further ensure the city's social diversity, such as the Housing and Homelessness Strategy, the Food Strategy, the Cultural Amenities Plan, and the Transportation 2040 plan. The respondent shared that many of the plans listed above were catalyzed by the GCAP and during neighbourhood planning projects the documents are collectively considered to address multiple City objectives. To ensure that the GCAP was not receiving more attention than other policy documents, one City Councillor shared that the City has a "triple word score" to meet as many objectives as possible when undertaking projects throughout the city. The respondent explained:

> *We have what we call a triple word score . . . if a project meets [greenest] city goals, helps to employ people with high barriers to employment or you live [in a] very low-income [area] . . . , or it creates a social enterprise like a self-hub model, that would be a double word score, and then also [if you add] "low dollars in, high outcome out" [to the mix], that's the triple word score.*

A senior City staff in the Social Policy Department noted however, that even with the intention of meeting multiple goals in various policy documents, the green initiatives have the advantage of getting more support and resources from the provincial government and professional organizations. The respondent mentioned that social planning has always received less funding as it has often been the purview of other levels of government. In addition, it was explained that the delivery of the goals in the Healthy City Strategy are significantly more challenging to address and require long-term focus. They provided the implementing a living wage and improving the city's poverty and homeless rates, as examples of the more challenging goals to meet. Adding to the challenge of receiving adequate resources to implement the City's social sustainability policies, the

respondent shared that the Sustainability Department's leadership team also had a challenging time understanding the relevance of reconciling health-related and environmental sustainability strategies in the Healthy City Strategy. Interestingly, many of the social equity goals included and implemented as part of the GCAP, in particular the local food strategy and access to low barrier employment opportunities in the green economy goal, were directed and implemented by the Social Policy Department. As shown in Figure 5.2, many of the local food projects appear to be distributed across the city's lower income neighborhoods, suggesting that the involvement of the Social Policy Department may have pushed for the inclusion of social equity in the distribution of locally sourced food projects.

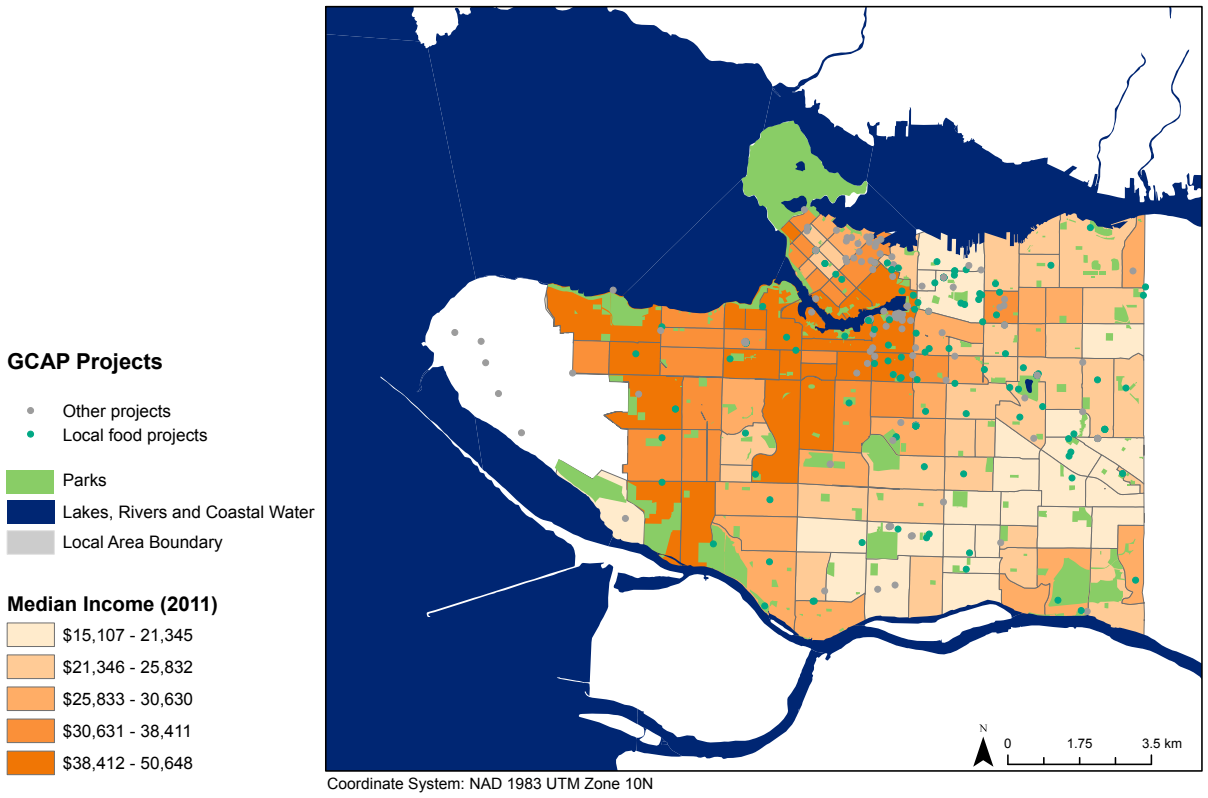


**Figure 5.2: Distribution of the GCAP Projects Across Income Groups in the City of Vancouver**
**Data: Open Data Catalogue, City of Vancouver**

However, the respondent from the Social Policy Department also noted that some of the equity goals in the GCAP do not fully address some of the city's most underlying problems. For instance, with the growing gap between the rich and the poor, the respondent argued that the goals concerning the creation of green jobs were to primarily strengthen the city's green economy, "not peoples' income and ability to live and thrive". Likewise, "the focus on food was on local [procurement], not so much on peoples' ability to access it if they can't afford to eat properly." The respondent further challenged that while the plan attempted to address equity, it did not consider how all of the city's residents would be able to benefit from the environmental amenities created. Concerning the access to local food goal, respondent emphasized:

> *The food strategy would probably be criticized for not taking a food justice standpoint. It was all about local. Kind of assuming everybody can go to a farmer's market and buy fresh food [and] organic . . . so it's a white middle class approach to food. More recently . . . [it has been] expand . . . around food access [and] poverty . . . [with] equity being baked into that. So that's . . . the critique I have of the green [policies and strategies]. Is [that] it doesn't explicitly talk about the people in the center of this, it's the foods in the center. You've got to look at the whole population not just a segment of it.*

A similar comment was shared by a developer who stated that the City's sustainability policies were interpreted and adopted by residents in a superficial manner. The respondent stated the green amenities were not appreciated for their function and were instead boasted by residents as "jewelry" through their purchases of green developments and electric vehicles. An academic and previous City Councillor stated on a similar note that the GCAP was symbolic of the city's values concerning sustainability and livability which are "very distinctively related to issues like class and equity".

As to whether an urban sustainability plan could be created in the future to include all responsibilities around social, economic and environmental sustainability, one City staff shared that there are concerns that many of the targets in the GCAP would not be met and would thus impact the city's brand. The respondent also noted that the fragmentation in the City's policy documents prevented the administration from holistically understanding and addressing sustainability by focusing on individuals at the center of the goals and policies. Another City staff expressed that

having separate policy documents was more efficient and effective at achieving the City's goals and targets. The respondent added:

> *That's the good side of having . . . a . . . more focused team to do the different priorities at the City . . . If housing had to do sustainability and housing [then] maybe they're watering down what they're doing on the housing side because of the sustainability. They really just need to focus on housing and where there's opportunity for synergies [then] we take advantage of those opportunities.*

The respondent further mentioned that a comprehensive document that managed affordability, economic sustainability, healthy cities, and environmental sustainability would be too large to manage for the administration and would consequently limit the amount of accomplishments possible. The individual policy documents were described as "bite size pieces" that made the implementation of policies easier. A similar comment was also shared by an academic who works to implement projects related to the City's action plans. The respondent explained that while one comprehensive sustainability document may sound efficient, it is an unrealistic concept given the complicated process to implement policies and projects on the ground. The sentiment towards having different policy documents and teams devoted to accomplishing different goals was expressed otherwise by a senior City staff in the City's Social Development Department. The respondent expressed the challenges of meeting multiple objectives in various policy documents, by testifying:

> *[We had a] … conversation about intersectionality and the fact that we're not really great at linking up all the interconnections between[the] plans or recognizing where the rubs are… it's really difficult.. and [to] achieve all the affordability objectives . . . There needs to be a greater sense of interconnectedness.. amongst different plans.*

While respondents worried that multiple policy documents led to inefficiencies, the City staff and academics who advocated for separate policy documents noted that the approach allowed the City to more efficiently address its goals. By separating social equity and urban sustainability goals, some respondents believed that the City could more easily progress on its goals of being the greenest city in the world by 2020, without being held back by priorities such as housing which requires support from senior levels of government.

In determining the overall responsibility of the local government in overseeing social equity, an academic and previous City Councillor questioned whether the City should be responsible for addressing issues related to social equity created by external forces outside of the local government's responsibility. The respondent explained that although the City of Vancouver has been responsible for the provision of basic infrastructure, sewers, garbage, the delivery of safety and security services, social services in extreme conditions, land, and other services for the growth machine to generate housing since the beginning of 1986, expectations that the City should address social issues and solve the housing crisis are unreasonable. The respondent also noted that while it appears that everyone would like to have social equity and opportunities around housing, individuals like class distinction and being surrounded by individuals similar to their status. A statement contrary to prevailing wisdom of social equity and social sustainability.

The local government taking measures to address social equity and housing goals was often referred to as political suicide by former City staff, developers, and academics. Many City staff and academics noted the need for senior levels of government to continue providing support for the development affordable rental housing and social housing to help maintain the city's social diversity.

Moving forward, the City of Vancouver has recently joined the 100 Resilient Cities program, launched by the Rockefeller Foundation, which works with cities to create strategies to become resilient to urban shocks and stresses. Shocks including events like fires, earthquakes, and floods, and stresses including unaffordable housing, crime, congestion and social inequity. While the plan is currently in the process of being development by the City and its stakeholders, it will likely take an environmental justice approach to protect the city's most vulnerable areas and residents from factors that could impact the well-being and resilience of communities. A senior City staff suggested that the GCAP could easily take an environmental justice stance by bringing equity and individuals at the center of its policies and protect the city's most vulnerable from climate change. The respondent mentioned that reframing the strategy as the "Greenest City for All" would be a more holistic approach that would allow all individuals to benefit from the environmental and economic impacts of the plan. In addition, the respondent believed that it would help address the fragmentation the City faces by not having a city wide OCP. Nonetheless, the respondent believed that the City's future Resilience Strategy will hopefully reconcile the topic of social equity and sustainability.

To address the challenges of environmental gentrification, the City of Vancouver has separated its policies of environmental and social sustainability. While there are opposing arguments on the desire to create a comprehensive urban sustainability plan, the conversations with respondents suggest that having separate policy documents allows the administration to efficiently work on their goals and targets. This particular challenge seems to stem from the fact that the city's brand is tied to its environmental sustainability goal of becoming the greenest city by 2020, and social sustainability targets take much longer to accomplish. The City's annual CBP in this case remains an essential document that provides each Department at the City an overview and direction of where the City is collectively headed that year.

## THE IMPACTS OF THE GREEN DESIGN AND ENERGY EFFICIENCY REQUIREMENTS ON AFFORDABILITY

With Vancouver's unaffordable housing market, there have been concerns that the GCAP is further impacting the city's cost of housing through its policies related to green building codes and requirements of building carbon neutral from 2020 onwards. These concerns have created speculations that the city's quality of life is being denied to its own residents and that the environmental amenities being created can only be enjoyed by those who can afford to live in the city (Robinson, 2016).

In March 2016, the Vancouver Sun shared the story of a family who faced unexpected cost overruns during a renovation project to increase the size of their home for their growing family. The cost of the project increased not only because of changes required to the aging infrastructure but also because of energy requirements associated with the cost of their renovation. The family shared that many of the properties purchased within their neighbourhood were being demolished as it proved to be more cost-effective than renovating (Lindsay, 2016). This change to the character of their neighbourhood also raised concerns that the new houses would be more expensive than the previous homes found in their neighbourhood. It also brought to light the fact that the financial incentive to rebuild defeated the City's aim of becoming sustainable and environmentally responsible, with unnecessary waste being diverted to landfills (Mackie, 2016). The family also shared that the rising cost of housing in their neighbourhood displaced many of their children's friends and families (Lindsay, 2016), pointing to the social consequences of the high real estate costs on the family's quality of life.

Others have also expressed concern that the City's new building codes mandating green designs and energy efficiency requirements will further impact the municipality's high cost of housing. It has been estimated that compliance with green standards in the City of Vancouver results in an additional $15,000 in construction costs per housing unit. The CEO of the Greater Vancouver's Homebuilders' Association noted that the unpredictable and frequent changes in building codes by the City made the provision of affordable housing a big challenge by adding to the uncertainly to the cost of developments (McElroy, 2015). Among other concerns, the City's plan to ban natural gas by 2050 under its Renewable City Strategy has also created unease over the rising

cost of electricity and its impact on individuals' financial security. While the City affirmed that it is not banning natural gas but rather working with partners to find alternative sources of energy such as renewable natural gas, there are still concerns and uncertainty on how the policy will unfold (Zeidler, 2016).

A senior City staff from the City's Sustainability Department explained how the new building codes implemented to reduce energy use and greenhouse gas emission will impact new and existing buildings in the city. First, for new buildings, the respondent explained that the updated building codes will increase the cost of construction by 1% to 2% and will not significantly impact the cost of owning a home in the city. This argument was based on the fact that the high cost of real estate was a result of the high cost of land as opposed to the cost of the physical structure. Given the high demand in owning real estate in Vancouver, the respondent shared that developers will always sell the properties based on what the market is willing to pay. In the case that developers do decide to increase the sale price of units and homes due to the new building codes, the respondent stated that the cost of housing would increase by an estimated $11. However, with the new green features being built as part of the new developments, the respondent expected that tenants would have a total net saving of $9 per month on their utility bills. Similar statements were also shared by academics, a senior staff from a non-governmental housing agency overseeing rental housing in the city, a developer, and a home designer actively involved in the city's housing market. Given the high of cost of owning a property in the city, the home designer described that the cost of building an energy efficient single-family home was not different from the type of tiles or flooring selected by a homeowner. They emphasized that the cost of going green often "[got] lost" in the cost of the land.

From the point of view of a developer and a senior staff from a non-governmental housing agency, the green building codes were suspected to have different impacts on purpose-built rental housing and market-rate condominiums. For the construction of purpose-built rental housing, the respondents shared that while the codes increased the upfront cost of construction, the payback through energy reductions was rapid. The respondents also noted that purpose-built rental housing projects have always been built to higher standards than condominiums as the investment allows building owners and operators to save in operation costs and have a product that lasts longer in the market. For the development of market-rate condominiums, it was noted that in Vancouver's heated market, the cost of going green is immediately passed onto the buyers. The following statement by a

senior staff from a non-governmental housing agency provides a comparison on the impacts of the building codes:

> *They [private developers] basically supported this [green building codes] because ultimately at the end of the day, . . . in this market they can pass on whatever cost they want [to the buyers.] But the thing for them is that they are not going to be around to recoup those savings. They built it, they pre-sell it, and then a year after it's opened, they're gone, right. See, for us [in the rental housing market], we will actually see the benefits of those investments because we are owner operator. That's the difference.*

Second, for existing buildings, it was acknowledged by a senior City staff in the Sustainability Department that a full retrofit of older apartment buildings would not be financially realistic for many building owners and operators, as they would be forced to pass the cost of the retrofit to the tenants. The respondent noted that this issue was reflected in the City's policies in not requiring the retrofit of existing buildings. To address this challenge however, the respondent mentioned that for small retrofit projects, the City provided incentives for the replacement of items such as boilers and windows. For building owners undertaking large retrofit projects, depending on the amount of money being spent, the respondent shared that the City requires an energy audit to provide owners an idea on the savings they could accrue if additional retrofits were undertaken. However, none of the recommendations from the audit are imposed upon the owners and they are only meant as suggestions and an opportunity to see where additional savings could be made.

A custom home designer active in Vancouver's housing market shared that the City's new building codes have added costs as a result of the delays in processing building permits. However, the respondent believed that this problem was a result of the transition between the two buildings codes, rather than the green building codes themselves. The custom home designer, like many other respondents, shared that bigger market forces were impacting the city's affordable housing crisis. A City Councillor who also acknowledged the cost associated with the "extra enforcement and oversight charges" noted that the City had created many incentives to offset the additional costs and to better facilitate development in the city, particularly for purpose-built rental developments. The home designer noted that the retrofit of rental buildings negatively impacted the stock of affordable rental housing in the city. The respondent explained that a recent retrofit project updated to the

City's current codes doubled individuals' rent. For single-family homes, the respondent shared that retrofit projects were not as common as they had been in previous year and this could potentially further impact the city's affordable housing crisis. The respondent noted:

> *Clients all the time . . . [ask whether they] can . . . bump up another floor or [whether they] should . . . tear down and rebuild. 5 or 6 years ago we were doing more additions because it . . . made more financial sense [ but] now everything is so expensive. When you look at the asset value between what you have at the end of the day, with a new house versus an old house, people are . . . trying to match asset value to the value of their land. I think that has a bigger impact.*

As shared by a City Councillor (GM), the costs associated with renovations has also made it challenging for the city to maintain its character homes. Achieving energy efficiency and maintaining the character and historic features of neighbourhoods has become a problem hard to reconcile with the green priorities. In the West End of Vancouver, where majority of the city's rental housing stock is located, a senior staff from a non-governmental housing agency overseeing rental buildings explained that undertaking retrofits is far too expensive, unless the building owners can obtain density bonuses. Owners are often faced with restrictions in zoning, Rate of Change and rent control policies which prevent many of them from undertaking the renovations as the cost is not financially realistic without having the opportunity to recover the cost of the retrofit. A senior staff suspected however, that the older stock will eventually be sold by owners who cannot undertake the renovations and pass on the responsibility to someone else. Given how this transfer is handled, there could be possible impacts to the city's stock of rental housing.

With the green building requirements having different implications on the cost of existing and new buildings in the city, majority of the respondents believed that the City's green initiatives and the topic of affordability are interrelated. A City Councillor explained:

> *If you think [of] affordability broadly, the plan [GCAP] and affordability work together really well. If you think [of] the word green, it is really a surrogate for using resources efficiently. Just to say the less you spend on wasted resources, whether that is time resources or energy. [If] your building isn't efficient or you're making people travel long distances and [they have to] pay for*

*that . . . [commute] because the only place to build affordable housing is far away, [that] is not green.*

While this statement is true in the sense that energy efficient buildings will help individuals spend and use less resources, it is unlikely that resource efficient homes will make housing affordable to those who cannot afford a home. Interestingly, the respondent also noted that the City's efforts towards creating a sustainable environment has allowed its constituents to view mid- and high-rise buildings differently. The respondent explained that the City's overall goals around urban sustainability has opened many of the residents' mind to the benefits of mixed-use environments with higher density buildings.

While speaking to a range of individuals on the impact of the City's bylaws around the development of green buildings, particularly around LEED standards, many expressed their dissatisfaction with the outcome of LEED certified buildings. A senior staff from a senior government housing agency explained that LEED buildings in fact increased the cost of maintenance and repairs due to poor installations or the features not function properly. As a result, the respondent explained that their organization had adopted their own set of standards and have since taken on the development of passive homes which are less dependent on the use of technology, cheaper, and more reliable. The respondent also suggested that the costs associated with LEED Gold developments could negatively impact the rental and private housing market in the city. The respondent explained:

*The issues with LEED certified building just drove up the cost of that [development] and because we build housing and the rents are affordable rents, all that means is that fewer units can get built if the capital cost of the individual units go up. In the private market, especially . . . like Vancouver, all those costs will simply be passed onto the purchaser, because you're able to do it in a market like Vancouver. So I would have hoped that they would have been . . . more certain . . . [before] pressing everyone to go to LEED Gold.*

Similar comments were also shared by a developer and a senior staff at a non-governmental housing agency overseeing rental housing. The respondents noted that LEED developments often increased the cost of living and utilities. While a senior City staff noted that building to LEED

standards is no longer a requirement placed on developers, he noted that many continued to build LEED certified buildings as they often had difficulties selling non-LEED development to banks. Given the cost associated with the repair and maintenance of LEED building however, there is a possibility that the City's option in allowing LEED developments could create more harm than good for the city's overall affordability. A senior City staff from the Social Development department expressed the following statement on this issue:

> *Olympic Village for example, [had] the cutting-edge sustainability features and all that. It's a great [project]. You can walk through it, it's fantastic. But we are finding some impacts in terms of the sustainability of providing affordable rental housing versus some of the technical systems that you need to have in place to make them sustainable, [for example having] solar panel systems. I'm not sure there's full cost account done on a lot of them [developments] . . . It is difficult when you try mixing in all of these different agendas. When you focus on affordability and affordable social housing and the physical cost of building buildings, you begin to realize that meeting the other city objectives around sustainability is very difficult . . . And then the City gets criticized for building Cadillac social housing.*

In conclusion, while the city's new green building codes do impact the cost of construction, it appears that the impacts will be different for new and existing buildings as well as for single-family homes and multi-unit buildings. For new developments, the most compelling argument suggests that in the city's heated real estate will allow developers to pass on the cost of the construction to the buyers, however City staff point that this increase will balance itself with the energy efficiency savings homeowners will be able to accrue. While the green building requirements won't significantly impact the city's high cost of real estate, majority of the conversations pointed that affordability and green buildings are interrelated as energy savings will allow individuals to decrease their utility bills. The major concern however is the retrofit of rental buildings in the city where the cost could be passed onto the tenants. The City's Rate of Change policy, which requires a one-to-one replacement of rental units in new developments is perhaps one of the most important tools to ensure renters and middle-income earners have a place to live. Lastly, given on the feedback on LEED developments, the city's perceived ideas on the benefit of the development could negatively impact affordability by increasing the operation costs of buildings after units have been sold. One of the barriers to achieving this however, is the challenge

developers faces in selling non-LEED developments to bank.

## THE IMPACTS OF THE AFFORDABLE HOUSING CRISIS ON VANCOUVER'S STANDING AS A SUSTAINABLE CITY

The City of Vancouver's housing crisis has the potential to impact the City's progress toward urban sustainability, simply through the displacement of lower and middle income groups. While discussing with individuals the impacts of the housing market on the City's GCAP, the social consequences of the housing market appeared to be the most significant and damaging to the City's long-term sustainability.

Participants who expressed concerns over the maintenance cost of LEED buildings and the cost of going carbon neutral explained that meeting affordability targets in new developments can create challenges in providing a range of housing options to different income groups. Other expressed that the City's hesitation to address supply, create a missing middle market, and rezone neighbourhoods could also impact the range of individuals who could live in the city. One respondent noted that breaking the single-family zoning would allow for the introduction of different forms of housing that would become attainable for families and the city's average income earner. The respondent emphasized, "we're at that point where the land value has reached the value of multi-family dwellings, but we're not allowing multi-family dwellings, so it's creating this real tension". As fewer and fewer individuals can afford a home in Vancouver, the displacement of individuals can significantly impact the City's aspiration to become leader in global sustainability.

Many respondents expressed that as individuals and workers become priced out of the municipality, the city's pollution and GHG emissions could increase as more individuals would be commuting longer distances to the city. These consequences could set back the City in its efforts to have a majority of trips made by active modes of transportation and increase its susceptibility to natural disasters. An academic who believed that the affordability crisis wouldn't set back the City in its goals of urban sustainability shared that it should at least encourage the City to change the single-family zoning and introduce different forms of dwellings as that would help the City progress on its goals of urban sustainability and affordable housing.

Perhaps even more significantly, the city risks losing many of its employees and its capacity to attract workers and companies. Instead of seeking employment opportunities in the City of

Vancouver, many workers could easily decide to live in cheaper municipalities where they could have short commutes and more housing options to choose from. This could significantly impact the city's economy and its perception as a world class city. One City staff described the potential consequences of the housing crisis as:

> *You'll get to the point where everybody . . . here is a millionaire and then people will go, "oh well there is nobody working in the coffee shops, and my bank is closed three days a week because there's nobody to work there, because . . . only billionaires can afford to work here, and . . . [everyone else is] working in Langley and Surrey" and then people go "well Vancouver kind of sucks, I don't want to live here, because there's no services for me . . . there's no nightclubs or anything . . . because everything's just for rich people". . . We'll get a rebound effect where people will leave, the city will become less attractive, the property tax will slow down, we'll have abandoned homes. You'll get messy neighbourhoods because people don't take care of their own property and you get all these negative things happening. That'll be kind of a rebound effect because you don't have a sustainable urban system in place.*

Another respondent explained that aside from young professionals who help maintain the city's vibrancy and the city's economic function, the city also risks losing the type of people living in the municipality, namely, aboriginals and immigrants who have helped shape Vancouver. The respondent stated that for environmental amenities to be enjoyed by a range of individuals, all the pillars of sustainability needed to be in place and established to ensure a well-balanced city. The respondent emphasized:

> *The term sustainability, [includes the] social, economic, environmental, and cultural . . . pillars of sustainability. I think that they are all really important. To have environmental sustainability for a bunch of young hipsters, you know they could eat kale every minute while they're riding their bike . . . it's nice, but . . . [if there] isn't the full array of [a] society there . . . it's a hollow society.*

Many addressed creating a range of housing forms with different forms of tenure would allow a greater range of individuals to live in the city, particularly families. Developers actively involved in the city's housing market noted that for Vancouver to be socially sustainable, the

administration needs to introduce various forms of housing such as duplexes and allow the development community to continue building a variety of housing forms. However, one of the biggest concerns in the housing market is that developers are not building family-sized units. They are often building large quantities of small units, typically one bedrooms, where they can generate the largest profit. According to one of the respondents, the type of development occurring in the city is impacting the quality of neighbourhoods. The respondent shared that if the City continues to allow the development of homes geared towards young adults, the city risks losing the vibrancy that young families bring and risks becoming a resort city only affordable to the wealthy. The respondent shared that more thought-out neighbourhoods could help create settings that provide all individuals with a range of housing options as well as families with access to parks, schools, and retail services.

While many of these events can drastically impact the city's future and overall sustainability, it was noted by a City Councillor and multiple City staff that the City of Vancouver continues to remain a well-balanced city and the pressures to address affordable housing have not set back the achievements of the GCAP. However, considering that the City has the world's third most expensive housing market, it is challenging to agree that the city is "well-balanced. To prevent the displacement of residents due to a lack in affordable housing options, the City must ensure that its various objectives and goals do not undermine the city's overall social sustainability.

# VI | DISCUSSION

The research sought to examine two areas: first, how social equity policies are addressed in the City's blueprint for urban sustainability titled the Greenest City Action Plan, and second, the relationship between Metro Vancouver's housing crisis and the City of Vancouver's goals of urban sustainability. A range of City staff, academics, developers, private and non-profit housing groups, and senior government housing agencies were interviewed, and shared their thoughts on the challenges of addressing social equity, how the new green building codes were impacting the city's high cost of housing, and lastly how the city's affordable housing crisis was impacting the city's goals of urban sustainability. To understand the wider implications of this research in the realm of urban sustainability and the role of affordable housing in sustaining healthy and attractive communities, this chapter will provide an examination of the findings, state their implications on the City of Vancouver, and provide recommendations for addressing social sustainability and affordable housing goals. Given the challenges of adequately addressing social equity priorities in the GCAP and the current distribution of the Greenest City projects, it is suggested that the document could be enhanced to include social equity metrics to assess how equitably the projects are distributed across neighbourhoods and income groups. Similarly, given the greater amount of funding the City's environmental initiatives receive, it is suggested that social sustainability goals that can be achieved in a reasonable time frame should be included in the GCAP. Further, to address the potential impacts of the City's green building codes on affordability, it is recommended that City staff work with building owners to identify solutions and incentives that address their needs. Other recommendations such as the introduction of other forms of housing found in the missing middle market are also recommended to help maintain the social diversity of the city and to mitigate regional environmental consequences.

## THE DISTRIBUTION OF THE GREENEST CITY PROJECTS &THE CHALLENGES OF ADDRESSING SOCIAL EQUITY

While the GCAP was developed in 2009 to place Vancouver at the forefront of urban sustainability, the policy document appears to narrowly use environmental sustainability principles to raise the City's profile as a green and sustainable city. Although other policy documents are in place to ensure social and economic sustainability goals, the fact that the administration uses environmental sustainability as the primary "strategy for staying on the leading edge of city sustainability" (City of Vancouver, 2012a), brings to attention a few challenges. As many respondents explained, addressing social equity is a challenge given the complexity and resources needed to deliver equity. Some examples include the delivery of affordable housing, the legislation of a living wage, and creating access to a range of social, community and health services. Separating the three pillars of sustainability appears to have been done for three reasons: first, as a political approach to obtain support from senior levels of government in areas that require partnerships and financial support, such as delivery of purpose-built rental housing and social housing; second, as a strategic approach to advance in areas where the local government has the capacity to do so independently and with local partners; and lastly, as an approach to address policies and goals at a scale that is most appropriate at the local government's role, resources, and capacity as an administration. While the City of Vancouver addresses all three pillars of sustainability through separate policy documents, the administration appears to struggle to find a balance between addressing its social equity and environmental sustainability goals. Although some City staff believed that addressing the different pillars through different documents allows for the administration to be more efficient, the City continues to struggle with meeting its social sustainability goals, particularly with the provision of a living wage and affordable housing. Other city staff described the City's process in addressing sustainability as a fragmented approach to city planning practice which created challenges in meeting multiple objectives. An example was given regarding the challenges of meeting affordability objectives in the development of real estate projects that needed to be built to green standards. While a comprehensive urban sustainability plan, addressing social, economic, and environmental sustainability would help better align the City's priorities, it does create a new set of challenges in how the City would operate and structure itself as an administration.

To reconcile environmental and social sustainability initiative amid the challenges noted above, the City should:

- **Create social equity metrics in the GCAP to identify how equitably projects are distributed:** Majority of the projects implemented to date appear to be located in the Downtown neighborhood. Identifying which neighbourhoods could benefit from the environmental amenities would allow for an even distribution of the Greenest City projects.

- **Identify areas where specific environmental amenities are needed the most:** As the GCAP is primarily focused on the equal distribution of amenities, identifying areas where specific projects are most needed would provide the plan with an equity dimension, that is currently lacking.

- **Incorporate social sustainability goals that could be achieved in a reasonable time frame within environmental sustainability planning strategies:** Given that environmental sustainability initiatives receive more funding from the provincial government and professional organizations, the inclusion of social sustainability goals in the GCAP could have the advantage of being met more rapidly**.**

- **Continue seeking funding from senior levels of government:** The capacity to undertake and implement social sustainability policies is a challenge at the municipal level of government. Funding and assistance from senior levels of government would help address social sustainability initiatives while also ensuring the success of environmental sustainability goals.

The implementation of these policies could help the City better understand the distribution of the environmental amenities and ensure that neighborhoods across the city are benefiting from both social and environmental sustainability initiatives.

## THE IMPACTS OF THE GCAP ON AFFORDABILITY

Further, while the City's bold urban sustainability plan has allowed the municipality to be ranked among the top livable and greenest cities in the world and North America, it appears that the sustainability features implemented city-wide have had a minor impact on the city's high cost of living and real estate market. The affordable housing crisis has been impacted by larger economic factors, including speculative investment in the local real estate market, a missing middle market, a shortage and aging stock of purpose-built rental housing, and a low vacancy rate. Although the city's image has allowed the municipality to become a destination among tourists and wealthy migrants, Vancouver is well-established in many other areas aside from urban sustainability. The city benefits from having a mild climate compared to other Canadian cities, scenic views and access to the ocean and mountains, a high employment rate, a good education system, and low crime rates compared to large cities in the United States (Gannon, 2001).

With the implementation of the City's new building codes to achieve carbon neutrality in new buildings and to reduce energy use and greenhouse gas emissions in existing buildings, there appears to be different impacts on new and existing homes. Most respondents agreed upon the fact that new buildings built to LEED standards will increase the cost of housing simply through the maintenance cost associated with the designs features and technologies incorporated in the structures. While LEED certification boasts a recognizable brand, the existing LEED buildings in the city were recommended by respondents to undergo a cost analysis to determine their overall benefit to the City's goals of affordability and environmental sustainability. The City's amendment to its by-law which mandated that all buildings be built to LEED standards is a step in a positive direction, towards exploring other technologies and designs to build environmentally responsible structures. The development of passive homes in the city appears to be a good direction to building green homes simply by increasing the thickness and insulation of walls. This new approach, according to many respondents, will help avoid the challenges associated with the new high-tech features where little is known about their performance or durability, and with the development of costly energy district systems.

Regarding the City's new building codes, some respondents suggested that the new green standards will increase the cost of housing in the city whereby the cost of the green amenities will be

passed onto the buyers. Although this increase is not an unrealistic prediction, the increase will likely not significantly impact the cost of housing in the city as housing prices are primarily influenced by the cost of land, rather than the physical structure of dwellings. Many respondents seemed to agree upon this fact. Ultimately, developers will sell the condos at the price that the market is willing to pay. Given the high land values and construction costs in Vancouver, it is likely that the new building codes, which mandate more expensive green building techniques, will decrease the profit margins of developers. However, given the high demand in owning property in the City's heated real estate market, the cost of new apartment dwellings will likely continue to be high due to market forces.

For both existing single-family homes and rental apartment buildings, it is likely that as individuals retrofit their homes to match their asset to the value of their land, the cost of real estate will reflect the quality and aesthetics of the dwelling as well. Thus, as the city's "tear-down" dwellings get rebuilt, the future re-sale price of these homes will reflect not only the cost of the land but also the value of structures. One of the biggest concerns for retrofits is their impact on purpose-built rental housing and secondary suits. The problem of evicting tenants due to large-scale renovations, a term referred to as reno-victions, is already a huge concern in the city. While the new green building codes provide tenants the opportunity to save on utility bills, it is very likely that landlords will increase the rent to reflect the cost of new amenities placed in the units. Although the City provides owners with incentives to cover the costs of renovation, it must implement policies that protect tenants from drastic rent increases. For the retrofit of the city's existing purpose-built rental dwellings, it is necessary that the City conducts research to determine how to best assist landlords in making retrofits financially feasible. As it was suggested by respondents, given the high cost of retrofitting older buildings, the city's aging stock of purpose-built rental housing risks being sold to developers who may entirely rebuild the property. This could impact not only the stock of affordable housing in the city, but also the historic fabric of the city's neighbourhoods.

## THE IMPACTS OF AFFORDABILITY ON THE CITY'S URBAN SUSTAINABILITY

As the cost of owning a home has become out of reach for many middle-income earners, the need to create different forms of housing tenure is critical in addressing the city's shortage in affordable housing. While Vancouver has been densifying for many years, it appears that the type of housing being built by developers is not the type of housing needed by Vancouver's residents. Many developers and academics mentioned that the City must work with its constituents to change the city's single-family zones and introduce alternative forms of housing such as duplexes, triplexes, and townhomes. Developers suggested that as the cost of land has reached the value of multi-dwelling buildings, homeowners could become co-developers and slowly help introduce a range of housing options for young adults and families struggling to find housing in the city. Some individuals noted that making such changes would also help the city become more sustainable simply by having fewer single-family homes in the city.

Ensuring that a range of policies are in place to address the city's affordable housing crisis will help create inclusive communities where the vitality and attractiveness of neighbourhoods are maintained. Such policies will also help ensure that the city's current residents are not priced out of their neighbourhoods and a range of income groups can comfortably live in the city. In the case that the city's affordable housing crisis continues, the City risks many consequences to its urban sustainability goals. As individuals get displaced from their neighbourhoods, there is a likelihood that a higher number of individuals will be driving to the city for employment purposes. This could negatively impact the City's GHG emission targets and goals of having most trips completed by active modes of transportation. This consequence, however, has the potential of not only impacting the City of Vancouver's overall sustainability goals, but also the region's (Metro Vancouver). As individuals get displaced to peripheral municipalities where land-use diversity is low, negative environmental impacts can result simply through their travel behaviors which will be more reliant on the automobile. Ensuring that individuals have access to affordable housing options is vital to the success of Metro Vancouver's Regional Growth Strategy which aims to reduce factors that make the region vulnerable to natural disasters, climate change, and social inequity. As individuals become priced out of Vancouver's and Metro Vancouver's housing market, the region's overall sustainability could be impacted by the expansion of urban boundaries on green-fields as individuals seek

affordable housing in rural municipalities such as Abbotsford, Mission, Chilliwack and more distant places including Kelowna.

Further, as young workers may be able to find affordable housing elsewhere in the province and Metro Vancouver, local businesses risk suffering from a shortage of labor to sustain their companies. This shortage in labor could also impact the city's economy, as established businesses may decide to locate where their prospective employees have better prospects for finding affordable housing. As many respondents mentioned, the city risks becoming a resort destination for the wealthy unless the City focuses its attention on creating a municipality that is socially sustainable and accessible to all.

The success of the City in achieving its goals of urban sustainability depend on how the administration can successfully use its resources and establish partnerships with senior levels of government and the non-profit and private sector. To create inclusive and vibrant neighbourhoods for individuals of all income levels, having access to affordable housing is key. Moving forward, the City should:

- **Give developers and the non-profit housing sector incentives to encourage the development of purpose-built rental housing projects**: The demand for rental housing is very high in the city given the high cost of real estate. The provision of rental housing for individuals of all income levels will help maintain the diversity of the city's population. Likewise, given that non-profit housing developers must compete for the same expensive land as private developers, the cost of building purpose-built rental housing is a financial challenge. Providing the development industry with incentives will help introduce a greater number of rental buildings in the city.

- **Work with Metro Vancouver to legislate a living wage policy**: Given the growing gap between individuals' income and the cost of housing, a living wage will help some (or more) individuals spend less than thirty per cent of their income on housing and leave them with a sufficient income for other essential necessities.

- **Enforce policies for a 1-to-1 replacement of rental units during redevelopment projects**; Protecting the stock of rental housing will ensure that the number of rental units does not decrease and that residents are not displaced from their neighbourhoods.

- **Introduce different housing types in the missing middle market**: Most housing options in the city are single-family homes and high-rise units. The introduction of townhomes, duplexes, and triplexes would help introduce housing forms at different prices.

- **Enforce inclusionary zoning in diverse parts of the city**: Creating diverse communities where a range of individuals can live will prevent segregation of lower- and higher-income groups. It will also help ensure that the sustainability amenities created benefit individuals equally.

- **Modify the zoning of single-family neighbourhoods**; With 0ver 50% of the City of Vancouver zoned for single-family homes and the city's high real estate values, owning a home has become out-of-reach for many individuals. Introducing a range of housing in diverse parts of the city will increase housing opportunities for a range of individuals.

The introduction of such policies will help ensure that a range of individuals can find affordable housing in the city and will create a municipality that is truly sustainable for all. Most importantly, the policies will help explore ways in which the participation of the private and non-profit housing sector could be leveraged to increase the availability and range of housing tenure in the city.

While the City of Vancouver has been successful in meeting many of its goals in the GCAP, using environmental sustainability to showcase the City's urban sustainability achievements by the year 2020 is a narrow approach to addressing sustainability. The city's affordable housing crisis has presented the municipality with a large challenge and pressure to maintain the diversity and the welfare of its residents. As it currently stands, the City's environmental and sustainability planning initiatives appear to be distinctly separated from social equity and planning initiatives. Given the close relationship between individuals' health and the natural environment, a comprehensive

document which combines environmental sustainability initiatives with the appropriate social sustainability goals, and the inclusion of social equity metrics in environmental sustainability initiatives, appear to be a more plausible way of creating environmental amenities that benefit a range of individuals. These initiatives could also help better address the impacts of the affordable housing on the region's overall environmental sustainability and issues related to equity.

# VII | CONCLUSION

Addressing the subject of social equity in the distribution of environmental amenities comes with a series of challenges. These include the management of policies, having sufficient funding, and having adequate resources at the municipal level. While previous research has demonstrated that urban sustainability initiatives at the neighbourhood level have the potential to displace residents by increasing the cost of the real estate, this research finds that the direct impact of the City of Vancouver's urban sustainability initiatives on the city's affordable housing crisis is weak. The policies that have guided the City's planning efforts have allowed the municipality to rather maintain and enhance its competitiveness, among its other qualities of having a stable economy, a good education system, access to natural amenities, and a temperate climate. While the City's new green building codes will not significantly impact the city's cost of real estate for new residential buildings, they will help decrease the cost of living for those who are able to purchase real estate or rent in the city. This, however, can only be achieved if reliable technology is used to achieve carbon neutrality and decreased levels of greenhouse gas emission. For the retrofit of existing buildings, it is likely that the new building codes will increase the cost of single-family and multi-family dwellings as individuals match the value of their asset to the cost of land. To avoid displacement of those renting in the city, policy makers must work with property owners to make the cost of retrofits financially justifiable to help preserve the existing stock of rental and affordable housing in the city.

From a social equity perspective, the City must continue using its resources to address the affordable housing crisis by introducing a range of housing found in the missing middle market, such as duplexes, townhomes, and row houses. The narrow spectrum of housing forms found in Vancouver's housing market is further reinforcing the city's affordable housing crisis by providing individuals with limited housing options. Meeting this objective will be a challenge. City staff must work with their constituents to modify the city's single-family zoning to a higher-density, to introduce newer forms of housing that could help accommodate a wider range of income groups. This could help individuals spend less than thirty per cent of their household income on housing, while leaving them with sufficient income for other essential needs. While engaging in these conversations will present a political risk to the City's leadership, the city's overall sustainability and reputation as an inclusive municipality are at greater risk.

As the Renewable City Strategy and the Resilience Strategy are developed to further advance the City's urban sustainability initiatives, their success will depend on the administration's capacity to create an equitable city where a range of individuals can benefit from the environmental amenities created. To do so, robust affordable housing policies and initiatives must be undertaken to protect the city's affordable housing stock and provide residents with the type of housing that best suits their needs. If the city's affordable housing crisis is not addressed, the city risks becoming an artificial city for the rich, where very few can afford to live. While City staff explained that the city continues to remain balanced in meeting its annual objectives, the affordable housing crisis has impacted the quality of life of the city's residents as they struggle to make ends meet in one of the most expensive housing markets in world. Concerns over the displacement of young adults who bring creativity, energy, and ideas to the city has been extensively covered in the media in recent years. A lack of young talent in the city could negatively impact local businesses' access to skilled labor and deter businesses from locating to Vancouver. The threats of the housing crisis to the influx of talent to the city and to the social diversity of households are thus a major risk to the city's economic stability.

For the City's environmental sustainability initiatives to be taken seriously, its social and cultural sustainability achievements are equally important. While the City of Vancouver has created distinct environmental, social, and economic sustainability plans for efficiency purposes, the GCAP could better integrate social equity and individuals within its goals and metrics. As it currently stands, the policy document focuses on pushing the city's competitiveness as a green and environmental city, without taking into consideration which social and income groups benefit the most from the amenities created. Given the high cost of real estate, the City could create progressive metrics that combine the inclusion of environmental amenities in the development of affordable housing projects. Likewise, a better integration of social goals which could be achieved at the municipal level without the help of senior levels of government could lead to a more comprehensive and credible strategy given the close relationship between individuals' physical health and the environment.

Perhaps one of the greater consequences of the city's affordable housing crisis will be its impact on the Metro Vancouver region. As the city becomes a greener and a more desirable place to live, the displacement of those who can no longer afford to live in the city will result in negative

environmental impacts through individuals' travel behaviors and area of residence. If low- and middle-income residents are pushed to peripheral municipalities where land-use diversity is low, their travel options will be more reliant on the automobile as the location of amenities are too distant to access without one. These direct consequences will substantially impact Metro Vancouver's goals in the Regional Growth Strategy, which aim at decreasing greenhouse gas emissions and mitigating the risks of climate change and natural disasters. The inclusion of better social policies targeted at creating affordable housing could help mitigate these problems, which also impact the City of Vancouver's goal of becoming one of the greenest cities in the world. A city whose affordable housing and social equity policies are as ambitious as its environmental goals is a more sustainable city.

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# APPENDIX A

## GROUP 1: CITY STAFF

**Specific Role:**

1. What is your specific involvement in sustainability planning or the affordable housing in the Vancouver region?

**General Issues:**

Social equity

2. Given the high housing cost in Vancouver, how does the GCAP address social equity to ensure that individuals of all socio-economic backgrounds benefit from the environmental amenities?
3. Is social equity addressed in other policy documents? How do they complement the GCAP? What is the benefit of separating these goals from the GCAP?
4. The GCAP has allowed the city to gain an economically competitive brand that is recognized for being green, clean and sustainable, how much success are the projects with a social equity dimension receiving? From an economic development perspective, how important is it to show that the green amenities can be enjoyed by everyone?
5. Do the priority targets and the achievements completed to date benefit some communities or income groups more than others? (For instance, the new building codes for retrofitting buildings, can be an expensive cost for families who simply want to increase the size of their homes) (Water will also become more expensive as it will be charged on a meter basis.) Will those who cannot afford the cost be forced to move out eventually? It seems like individuals must be ready to bear these costs if they want to live in a green and sustainable city.
6. The goals and targets related to Access to Nature, Local Foods, and the Green Economy goals seem to have an equity dimension to it, what makes these goals unique enough to be include in the GCAP compared to other social equity measures found in the HSC?
7. Has the affordability housing crisis set back achievements in the GCAP?
8. How is the affordability housing crisis impacting Vancouver's social goals and policies? If the City fails to meet its social equity policy measures in the HSC, does this threaten the City's long term sustainability?

Affordability

9. Have achievements within the GCAP made the city more attractive to individuals looking to move or purchase property in Vancouver? Has the affordability housing crisis decreased the city's attractive for those wanting to move here, other than for investment purposes?
10. Do you think that the problems surrounding the city's housing affordability and high cost of living would have still taken place without the GCAP?
11. Will pressures to improve opportunities for non-market rental housing and purpose built rental housing and address the City's affordability housing crisis to prevent the city from achieving its goals in the GCAP
12. Is the GCAP perhaps a big distraction from other priorities (homeless, social housing, purpose built rental housing, SROs) in the city? Should the energy be placed elsewhere? Is there more pressure to meet the plan's targets in order to maintain the City's competitive brand than on providing adequate housing?

## GROUP 2: ACADEMICS

**Specific Role:**

1. What is your specific involvement in sustainability planning or the affordable housing in the Vancouver region?

**General Issues:**

Social Equity

1. Given the high housing cost in Vancouver, how does the GCAP address social equity to ensure that individuals of all socio-economic backgrounds benefit from the environmental amenities?
2. Components of social equity such as housing, access to childcare, and making ends meet are mainly included in the City's HCS. In the City of Surrey, these objects are all under their urban sustainability plan. Why is it that two cities may divide and see social equity in different ways within the realm of urban sustainability? Wat is the benefit for the City of Vancouver to divide these goals into two separate documents?
3. The goals and targets related to Access to Nature, Local Foods, and the Green Economy goals seem to have an equity dimension to it, what makes these goals unique enough to be include in the GCAP compared to other social equity measures found in the HSC?
4. The GCAP has allowed the city to gain an economically competitive brand that is recognized as being green, clean and sustainability, do you think that not many social equity projects and priorities are included in the GCAP because they do not provide economic development opportunities? If yes, is this a weakness?
5. Do the priority targets and the achievements completed to date benefit some communities or income groups more than others? (For instance, the new building codes for retrofitting buildings, can be an expensive cost for families who simply want to increase the size of their homes) (Water will also become more expensive as it will be charged on a meter basis.) Will those who cannot afford the cost be forced to move out eventually? It seems like individuals must be ready to bear these costs if they want to live in a green and sustainable city.
6. Do priority actions within the plan address some of the City's and communities biggest needs? For instance, under the goal of establishing a green economy, one item identifies turning the DT Eastside and the False Creek Flats into Green Enterprise zone. We currently have a lot of homeless individuals living within these neighborhoods.
7. Will pressures to improve opportunities for non-market rental housing and purpose built rental housing and address the City's affordability housing crisis to prevent the city from achieving its goals in the GCAP?
8. Has the affordability housing crisis set back possible achievements in the GCAP?
9. How is the affordability housing crisis impacting Vancouver's social goals and policies? If the City fails to meet its social equity policy measures in the HSC, does this threaten the City's long term sustainability?
10. How sustainable is a city when only a segment of the population can afford to live there?

Affordability

11. Has the GCAP made the city more attractive to individuals looking to move or purchase property in Vancouver?
12. Do you think that the problems surrounding the city's housing affordability and high cost of living would have still taken place without the GCAP?

13. Is the GCAP perhaps a big distraction from other priorities (homeless, social housing, purpose built rental housing, SROs) in the city? Should the energy be placed elsewhere? Is there more pressure to meet the plan's targets to maintain the City's competitive brand than on providing adequate housing?

## GROUP 3: NON-PROFIT HOUSING GROUPS AND SENIOR GOVERNMENT HOUSING AGENCIES

**Specific Role:**

1. What is your specific involvement in sustainability planning or the housing and real estate industry in the Vancouver region?

**General Issues:**

Social Equity & Affordability

2. Have achievements within the GCAP made the city more attractive to individuals looking to move or purchase property in Vancouver? Has the affordability housing crisis decreased the city's attractive for those wanting to move here, other than for investment purposes?
3. Do you think that the problems surrounding the city's housing affordability and high cost of living would have still taken place without the GCAP? Will the city's cost of living continue to increase as goals and targets are met?
4. Will pressures to improve opportunities for rental housing and homeowner prevent the city from achieving its goals in the GCAP?
5. Is the GCAP perhaps a big distraction from other priorities (homeless, social housing, purpose built rental housing, SROs) in the city? Should the energy be placed elsewhere? Is there more pressure to meet the plan's targets to maintain the City's competitive brand than on providing adequate housing?
6. As home renovation projects now require green design considerations and energy efficiency upgrades as part of the City meeting its GCAP targets, does this increase the gap between the rich and the poor? What challenges does it create?
7. How does Retrofit Strategy for existing multi-unit resident buildings benefit purpose built rental housing and non-market rental housing? Does it improve housing affordability? What effectiveness is the Green Landlord project and what are its benefits for affordable housing?
8. Does the GCAP target of all buildings constructed from 2020 onward being carbon neutral in operations present challenges in building an adequate number of affordable housing in the city?
9. Are single-family households receptive to building laneway homes? Are they a good option for increasing the number of affordable rental housing units in the city?

# APPENDIX B

## POLICY DOCUMENTS GUIDING VANCOUVER'S VISION, DEVELOPMENT AND INITIATIVES

Age-Friendly Action Plan

Caring for All: Priority Actions to Address Mental Health and Addictions (2014)

Childcare Initiatives

City of Reconciliation

Climate Change Adaptation Strategy (2012)

Community Plans, Completed and Under Developed

Culture Plan for Vancouver (2008-2018)

City of Vancouver Digital Strategy (2013)

Earthquake Preparedness Strategy (2013)

Final Report of the Vancouver Mayor's Engaged City Task Force (2013)

Greenest City 2020 Action Plan (2015-2020)

A Healthy City for All: Vancouver's Healthy City Strategy (2014-2025)

Response to Missing Women and Commission of Inquiry

Renewable City Strategy (2015-2050)

Transportation 2040 (2012)

Vancouver Board of Parks and Recreation Strategic Framework (2012)

Vancouver Culture Plan

Vancouver Economic Action Strategy (2011)

Vancouver Fire and Rescue Services Strategic Plan (2011-2015)

Vancouver Food Strategy (2013)

Vancouver's Housing and Homelessness Strategy (2012-2021)

Vancouver Immigration Partnership

Vancouver Police Department Strategic Plan (2012-2016)

# APPENDIX C

## GREENEST CITY 2020 ACTION PLAN GOALS AND TARGETS (CITY OF VANCOUVER, 2010)

| | |
|---|---|
| **GOAL 1**<br>**Green Economy** | - Double the number of green jobs over 2010 levels by 2020.<br>- Double the number of companies that are actively engaged in greening their operations over 2011 levels by 2020. |
| **GOAL 2**<br>**Climate Leadership** | - Reduce community-based greenhouse gas emissions by 33% from 2007 levels. |
| **GOAL 3**<br>**Green Buildings** | - Require all buildings constructed from 2020 onward to be carbon neutral in operations.<br>- Reduce energy use and greenhouse gas emissions in existing buildings by 20% over 2007 levels. |
| **GOAL 4**<br>**Green Transportation** | - Make the majority (over 50%) of trips by foot, bicycle, and public transit.<br>- Reduce average distance driven per resident by 20% by 2007 levels. |
| **GOAL 5**<br>**Zero Waste** | - Reduce solid waste going to the land fill or incinerator by 50% from 2008 levels. |
| **GOAL 6**<br>**Access to Nature** | - All Vancouver residents live within a five-minute walk of a park, greenway or other green space by 2020.<br>- Plant 150,000 new trees by 2020.<br>- Restore or enhance 25 hectares of natural areas between 2010 and 2020. (NEW)<br>- Increase canopy cover to 22% by 2050. (NEW) |
| **GOAL 7**<br>**Lighter Footprint** | - Reduce Vancouver's ecological footprint by 33% over 2006 levels. |
| **GOAL 8**<br>**Clean Water** | - Meet or beat the strongest of British Columbia, Canadian and appropriate international drinking water quality standards and guidelines.<br>- Reduce per capita water consumption by 33% by 2006 levels. |
| **GOAL 9**<br>**Clean Air** | - Always meet or beat the most stringent air quality guidelines from Metro Vancouver, British Columbia, and the World Health Organization. |
| **GOAL 10**<br>**Local Food** | - Increase city-wide and neighbourhood food assets by a minimum of 50% over 2010 levels. |

# APPENDIX D

## A HEALTHY CITY FOR ALL: HEALTHY CITY STRATEGY GOALS AND TARGETS (CITY OF VANCOUVER, 2010)

| | |
|---|---|
| **GOAL 1 A Good Start** | - At least 85% of Vancouver's children are developmentally ready for school when they enter kindergarten |
| **GOAL 2 A Home for Everyone** | - By 2015: End Street Homelessness<br>- By 2021 enable: 2,900 new supportive housing units; 5,000 additional new social housing units (including 1,000 units of Single Room Occupancy (SRO) Hotel replacement); and 5,000 new units of secured purpose built rental housing [Housing and Homelessness Strategy] |
| **GOAL 3 Feeding Ourselves** | - By 2020: Increase city-wide and neighbourhood food assets by a minimum of 50% over 2010 levels [Greenest City Action Plan/Food Strategy/Park Board Local Food Action Plan] |
| **GOAL 4 Healthy Human Services** | - All Vancouver residents are attached to a family doctor<br>- Increase the percentage of Vancouverites who report having access to services when they need them by 25% over 2014 levels |
| **GOAL 5 Making Ends Meet and Working Well** | - Reduce the city's poverty rate by 75%<br>- Increase median income by at least 3% every year |
| **GOAL 6 Being and Feeling Safe and Included** | - Increase Vancouver residents' sense of belonging by 10%<br>- Increase Vancouver residents' sense of safety by 10%<br>- Make Vancouver the safest major city in Canada by reducing violent and property crime every year, including sexual assault and domestic violence |
| **GOAL 7 Cultivating Connections** | - All Vancouverites report that they have at least four people in their network they can rely on for support in times of need<br>- Increase municipal voter turnout to at least 60% |
| **GOAL 8 Active Living and Getting Outside** | - By 2020: All Vancouver residents live within a five-minute walk of a park, greenway or other green space [Greenest City Action Plan]<br>- By 2025: Increase the percentage of Vancouver residents aged 18 and over who meet the Canadian Physical Activity Guidelines by 25% over 2014 levels |
| **GOAL 9 Lifelong Learning** | - Increase participation in lifelong learning by 25% over 2014 levels |
| **GOAL 10 Expressing Ourselves** | - Increase public participation and community engagement in arts and culture by 25% over 2014 levels |
| **GOAL 11 Getting Around** | - By 2020: Make the majority (over 50%) of trips on foot, bike, and transit [Greenest City Action Plan/Transportation2040] |

| | |
|---|---|
| **GOAL 12 Environments to Thrive in** | - Add to the Greenest City Action Plan a biodiversity target and a target related to toxins prevention<br>- Every Vancouver neighbourhood has a Walk Score of at least 70 (indicating that most errands can be accomplished on foot) |
| **GOAL 13 Collaborative Leadership for A Healthy City of All** | - 90% of "actions for all" to be developed in Phase II will be implemented |