

Cities for All People

*An exploration of environmental justice
and city sustainability planning*

MRP Submission for EVD6999

University of Ottawa, Institute of the Environment

July 18, 2015

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1.0 Introduction

The beginning of the global movement towards sustainability and sustainable development can be traced back to the 1972 UN Stockholm Declaration and the 1980 World Conservation Strategy (Redclift, 1987). The most well-known and widely used definition of sustainable development comes from the 1987 Brundtland Report, which states that sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development, 1987). Since the release of the Brundtland Report, sustainability has become nearly ubiquitous in policies and plans at all levels of government (Agyeman, 2014). As the world tries to understand how exactly sustainability can be operationalized, city governments are becoming major players in affecting global sustainability with local actions (Rosan, 2012). With the majority of the world's population now living in urban centres (United Nations, 2014), city governments are shouldering increasing responsibility for ensuring people can live, work, and play in a place that is economically, socially and environmentally sustainable.

To operationalize sustainability, many cities around the world are adopting sustainability plans, however, one of the important questions that has been receiving recent attention is whether or not those sustainability plans benefit all people equally (Rosan, 2012). There have been examples of residents and employment being displaced as a result of redevelopment and gentrification in the name of sustainability (Rosan, 2012; Checker 2011; Pearsall 2012), which brings into question whether sustainability can in fact guarantee a better life for all.

Environmental justice is the principle that all people have the right to be protected from environmental harms and to live in and enjoy a clean and healthy environment (Agyeman & Evans, 2003). The environmental justice movement was gaining momentum at about the same time as the sustainability movement. It began in the United States in the early 1980’s when national attention was brought to the fact that certain groups of people and communities were facing a disproportionate amount of environmental risk and harm (Walker, 2012). Since then, there have been efforts internationally and at all levels of government to try to address the issue, but with generally limited success (Bullard et al., 2007; Holifield 2004; Lavrysen, 2014; European Environmental Bureau, 2007) as environmental injustices are still occurring today (Bullard, Mohai, Saha, & Wright, 2007).

A truly sustainable world cannot exist if not experienced by everyone (Agyeman, 2003), but until only recently, the topics of sustainability and environmental justice have been researched separately (Agyeman, 2014). As more and more cities and municipalities develop sustainability policies and plans, ensuring that the social dimension of a sustainable system receives equal attention is becoming increasingly important (Pearsall & Pierce, 2010). As Agyeman (2003) explains “a truly sustainable society is one where wider questions of social needs and welfare, and economic opportunity are integrally connected to environmental concerns”. To better understand the potential inequalities produced by society’s drive towards sustainability, researchers have recently begun to look at whether or not sustainability plans are addressing environmental justice.

This paper reviews how cities can create sustainable places for all people by exploring what environmental justice would look like at the city or local government level and building the argument that the local government or city level is a key place where the integration of environmental justice and sustainability is likely to be most effective. In Sections 2 and 3, I provide an overview of the concepts of environmental justice and sustainability, and in Section 4 I discuss how the two concepts are linked and highlight where tensions or disconnections between the two movements have been documented. To determine what environmental justice would look like for a city, in section 5 I draw upon the available academic literature as well as the documented experience of San Francisco, CA, which is a city that has made considerable progress in incorporating environmental justice into sustainability planning. In Section 6 I then attempt to take the information and lessons learned from Sections 2 through 5 and summarize a number of key criteria that would be required to address environmental justice in sustainability planning for cities. To bring the discussion to a Canadian context, in Section 7 I discuss the implications of this research for Canadian Cities, and use the City of Ottawa to showcase how the criteria identified in Section 6 could be applied. Overall, this report demonstrates that even though many cities are not explicitly addressing environmental justice in sustainability planning efforts, they likely already have the tools and resources required to transition towards a sustainable city for all people.

2.0 Environmental Justice

The global movement to recognize that all humans have the right to a healthy environment is tightly linked to the fact that our health and well-being are intricately linked to the quality of the environment we live in, our exposure to environmental hazards, and our access to safe food and

drinking water. As Walker (2012) describes, for many people the environment is a source for prosperity and living a 'good life', while for others the environment is a constant source of threat and risk, and access to resources, water, and nature is limited. Environmental justice is the concept that all people have equal rights to a clean, healthy and safe environment.

The term 'environmental justice' originated in the early 1980s in the United States when a small group of people refused to accept any more environmental risk coming in to their community (Walker, 2012). In 1982 the residents of Warren County, North Carolina protested the siting of a polychlorinated biphenyl (PCB) landfill in their neighbourhood (Calloway & Decker, 1997). Residents had raised concerns over PCBs leaching into their drinking water and felt ignored by state officials as the project went ahead in spite of their objections. When the trucks loaded with the contaminated fill started arriving, the residents of Warren County laid down in front of them in protest (NRDC, 2006). The standoff lasted for six weeks and resulted in over 500 arrests, the first in U.S. history over the siting of a landfill (NRDC, 2006). Although the residents of Warren County were not successful in stopping the project, their actions sparked a series of events that brought national and global attention to the issue of disproportionate environmental burden (NRDC, 2006).

In reaction to the protests in Warren County, the United States General Accounting Office (GAO) conducted a regional study on the siting of hazardous waste facilities and confirmed that there was a strong relationship between the location of these facilities and the race and socio-economic status of the neighbouring communities (Bullard, 1990). Other studies followed giving more support to the same conclusion – communities in the United States that were predominately

African-American or low-income were more likely to be exposed to environmental hazards than other communities (Calloway & Decker, 1997).

The disproportionate environmental pollution experienced in Warren County and other regions was initially labeled as ‘environmental racism’ because studies demonstrated race was the most significant factor in determining where hazardous waste facilities would be located (Bullard, 1990). This term has since expanded to ‘environmental justice’ in order to encompass the relationship between other discriminatory factors including class, gender, disability, age, and future generations (Walker, 2012). The environmental dimension has also expanded beyond just distribution of pollution to now include environmental issues such as flooding, climate change, access to food, natural resource extraction, outdoor recreation, transport, and drinking water quality (Walker, 2012).

There is no single globally accepted definition for environmental justice but the most well-known definition comes from the United States Environmental Protection Agency (EPA), which defines environmental justice as:

“...the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies...It will be achieved when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn and work” (U.S. EPA, 2014).

The U.S. EPA definition emphasizes that race, color, and national origin are the predominate factors through which U.S. residents are vulnerable to environmental injustices, though there are many others. In the European Union, for example, the environmental justice movement is not

framed as strongly through racial and ethnic terms as it is in the U.S., but rather in terms of social categories (Laurent, 2011). A recent report from a group of European based not-for profit organizations defines environmental justice as follows:

“A condition of environmental justice exists when environmental risks, hazards, investments and benefits are equally distributed without direct or indirect discrimination at all jurisdictional levels and when access to environmental investments, benefits, and natural resources are equally distributed; and when access to information, participation in decision-making, and access to justice in environment-related matters are enjoyed by all” (Steger, 2007).

In this definition of environmental justice it is important to note that it includes access to natural resources and benefits from the environment in addition to the original focus on the distribution of environmental hazards.

Though there is no single definition of environmental justice there are a number principles that are common to all. First, environmental justice is anthropocentric and is therefore not the same as ecological justice or justice for non-humans (Walker, 2012). Secondly, environmental justice generally always deals with a form of distributional justice, which is concerned with the distribution of environmental harms and benefits (Walker, 2012). Though the start of the environmental justice movement was concerned mainly with the distribution of environmental harms in the form of hazardous wastes, today the distribution of environmental goods and benefits, such as greenspace and access to food, is also included. Most, though not all, definitions include procedural justice, generally described in terms of access to information, participation in decision-making, and access to justice. Finally, recognition, which concerns who is, and is not, valued and respected, is less often explicitly part of environmental justice definitions, though it is considered by many to be an integral component of the underlying causes of injustice (Walker,

2012). Based on these commonalities, it is clear that environmental justice requires three very broad frames in order to be achieved: distributional justice, procedural justice, and recognition. It should also be noted at this point that environmental justice does not have to be labelled as such in order to be considered an environmental (in)justice. Any form of unequal environmental harm or benefit, and the processes by which the inequity is created, are all considered part of the environmental justice framework.

2.1. Distributional Justice

As summarized in Walker (2012), distributive justice is often characterized as the central issue and fundamental question for environmental justice. Distributional justice requires the identification of three components: who are the recipients of the justice (or injustice), what is being distributed (environmental risk or environmental benefit), and how should the benefit or risk be distributed (Walker, 2012). The people or communities who are bearing the disproportionate burden of environmental harms can be simple to determine if the harm in question is a hazardous waste facility, but more challenging if the harm in question relates to an issue as broad as climate change. The identification of an environmental injustice can therefore be a simple matter of identifying the community adjacent to a waste facility, or a very complex matter of identifying the population of people to be impacted by rising sea levels as a result of climate change. A similar situation arises in terms of environmental benefits. Who benefits from the creation of a new park or the global reduction of greenhouse gas emissions?

2.2. *Procedural Justice*

The procedural element of environmental justice consistently includes the three objectives of access to information, participation in decision-making, and access to justice (Walker, 2012). Principle 10 of the Rio Declaration of 1992 is considered to be the original principle that grants the procedural right to a clean environment (Fitzmaurice & Marshall, 2007). Shortly after Rio, in 1998, the United Nations Economic Commission for Europe (UNECE) adopted the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (known as the Aarhus Convention). This Convention is entirely focused on implementing the procedural right to a healthy environment (Fitzmaurice & Marshall, 2007), and consists of the three elements of procedural justice outlined above. Specifically, Article 1 of the Aarhus Convention states:

“In order to contribute to the protection of the right of every person of present and future generations to live in an environment adequate to his or her health and well-being, each Party shall guarantee the rights of access to information, public participation in decision-making, and access to justice in environmental matters in accordance with the provisions of this Convention” (UNECE, 1998).

Based on the consistent international acknowledgement of the importance of procedural justice in environmental matters, it is therefore important that any approach to environmental justice include as a minimum not only the identification of distributional issues and methods to alleviate them, but also the three elements of procedural justice.

2.3. *Recognition*

The final component of environmental justice that is less often included in environmental justice definitions (Walker, 2012), but which is a critical to its implementation is recognition

(Schlosberg, 2004). Equality of persons cannot exist if all people are not respected and respect comes from being recognized (Schlosberg, 2004). Schlosberg examined literature and demands made by environmental justice activists and movements and found that although distributional justice was generally always present, the distributional justice was always tied with a need for recognition and political participation. The activists generally saw themselves as being disproportionately burdened or left out of political processes because their identities were devalued since one cannot participate meaningfully if they are not recognized (Schlosberg, 2004). Some argue that because recognition is a precondition for distributive and procedural justice, it does not require separate mention (Schlosberg, 2004). Separate or not, recognition of all people, communities, cultures, and ways of life is clearly a key component for environmental justice to be achieved.

3.0 Sustainability

As stated in the introduction, the most commonly referenced definition of sustainability is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987). The International Union for the Conservation of Nature (IUCN) definition is also widely cited and states that sustainable development means “to improve the quality of life while living within the carrying capacity of ecosystems” (IUCN, 1991 as cited in Agyeman 2013). Even with common definitions of sustainability and sustainable development there is often conflict over what exactly the terms mean and how they can be implemented (Agyeman, Bullard, & Evans, 2002).

Weak and strong sustainability, for example, have differing views on how sustainability is achieved. Weak or soft sustainability implies that natural capital can be replaced over time and substituted with other capital whereas strong or hard sustainability implies that some functions or ecosystems services cannot be substituted or replaced (Agyeman, Bullard, & Evans, 2002). Weak sustainability is considered very anthropogenic, relying on technological solutions to address environmental problems (Haughton, 1999). The strong sustainability view is more nature-centred focusing on reducing consumption of natural resources below the regenerative capacity of earth's systems (Haughton, 1999).

Sustainability and sustainable development is often simplified in terms of three main dimensions: environment, economic, and social. The environmental dimension requires society to live within the carrying capacity of the earth, while the economic dimension requires society to ensure everyone can meet his/her basic needs (Dale & Newman, 2009). The social dimension requires society to ensure the development of democratic systems of governance so that people and communities can live by whichever values they hold (Dale & Newman, 2009). The overall key principle of sustainability is that humans are dependent on the earth's ecosystems to support human life for the long-term and so those ecosystems must be managed accordingly (Boone & Fragkias, 2013).

4.0 Sustainability and Environmental Justice

While the early definitions of sustainability and sustainable development acknowledged the various components of sustainability outside of the environmental realm including the social, economic, and political context, they did not generally include explicit reference to justice or

social equity (Agyeman 2003). This is important because, as Middleton and O'Keefe (2001: p 100) point out, "sustainability can mean nothing unless development is socially just". A truly sustainable society will only be achieved when it improves the quality of life for everyone. As summarized by Agyeman, Bullard & Evans (2002), environmental quality is intricately linked to human equality. In countries where there is more equality in terms of income distribution, civil liberties and political rights there is generally also higher environmental quality (Torras and Boyce 1998, as cited in Agyeman, Bullard and Evans 2002). Building on this Agyeman, Bullard and Evans (2002) propose a refined definition of sustainability that incorporates justice and equity:

Our interpretation of sustainability is that its focus should be to ensure a better quality of life for all and that this should be done in a just and equitable manner, whilst living within the limits of supporting ecosystems.

Haughton (1999) argues that there are five interconnected equity principles that, if not addressed, will undermine our ability to achieve truly sustainable development. The Brundtland Report definition of sustainable development identifies the first two equity principles of sustainable development as *intergenerational equity* and *intra-generational equity*. That is, sustainable development requires that current generations must be able to meet their own needs without undermining the ability of future generations to meet their needs (Haughton, 1999). The third equity principle for sustainable development is *geographical equity*, which requires that local policies look to impacts beyond their individual jurisdiction and vice versa (Haughton, 1999). Political and jurisdictional boundaries cannot be used as an excuse for ignoring far-reaching impacts of decisions and policies, such as buying products from companies that do not employ fair wages or working conditions in developing countries. The fourth principle of equity that Haughton lists is *procedural equity*, which, as discussed earlier, is considered one of the key

elements of environmental justice. Procedural equity in very broad terms is the ability of all people to be treated equally and fairly in any regulatory or participatory system. The final equity principle that Haughton lists as being essential for sustainable development is that of *inter-species equity*, or the acknowledgement that nature and other species have rights onto themselves and humans have an obligation to ensure that ecosystems are not degraded. In these equity principles for sustainable development Haughton (1999) has outlined key ingredients any attempt at sustainable development must include if it is to achieve just sustainability for the long-term.

Although justice is core to the concept of sustainability, it is often not explicitly addressed (Boone & Fragkias, 2013). The problem that is often encountered is that sustainability and sustainable development planning are based on future goals and a vision of what a future sustainable world would look like, whereas environmental justice deals with injustices that are being faced by people today (Boone & Fragkias, 2013). Given this temporal disconnect, it is likely that those who develop sustainability plans for any level of government are focused on future tense goals and not present tense realities. Additionally, sustainability is viewed in global terms because it is, as previously mentioned, dependent on ecosystem functioning to support human life. We know that ecosystems are not constrained by jurisdictional borders and the global trade market for natural resources links local, national, and international levels of government and management. However, the discussions on environmental justice and addressing injustices that have occurred are generally very local, dealing with a single community or neighbourhood that has been disproportionately affected. The time and spatial scale differences between the two concepts present challenges for their integration even though, based on the previous discussions, one cannot be appropriately addressed without the other.

Agyeman, Bullard, and Evans (2002) discuss this nexus between environmental justice and sustainability and highlight a key point that could allow both concepts to aid in the more successful implementation of the other. Environmental justice, being focused on either past or present issues usually within certain communities or neighbourhoods, is a much more tangible concept, whereas sustainability, being future focused, is less so and that is often where implementation of sustainability encounters problems. If sustainability efforts were to place equal emphasis on the social aspect of sustainability, where the effects are felt more immediately today, it is possible that more sustainability efforts would be supported. Basically, this would act to bring the long-term impacts of sustainability into today's day-to-day life. The place where the integration of environmental justice and sustainability is most likely to be effective is at the community or local government level.

5.0 Environmental Justice in City Sustainability Planning

With the majority of the world's population living in urban centres (United Nations, 2014), sustainable cities are becoming increasingly important for achieving global sustainability (Pearsall & Pierce, 2010). Since, as was discussed in previous sections, sustainability cannot truly be achieved if environmental justice concerns are not also addressed, it follows that city governments are also becoming increasingly responsible for identifying and addressing environmental justice. City governments have the difficult challenge of implementing sustainable development in a way that ensures people can live, work, and play in a place that is economically, socially and environmentally sustainable, while also linking to global sustainability efforts. As Haughton (1999) explains, to achieve sustainable development we need to look to the broader economic, social, and political systems in which decisions are made that

shape human behaviour, and change those systems. The city, where the majority of people live, work, and play, seems like the best place to start.

Now that cities are increasingly being seen as the agents that can contribute most to the transition to sustainability (Rosan, 2012), they are beginning to take action. As an example, in 2011, U.S. mayors from 1047 different cities signed the U.S. Mayors Climate Protection Agreement where they agreed to reduce their carbon emissions to 7% below 1990 levels (Rosan, 2012). In 2014, the mayors signed a renewed agreement that focuses on local actions to adapt cities to changing climate conditions, aims to build grassroots support for local conservation efforts, and focuses on federal and state cooperation to support local governments in their actions (Schroeder, 2014). Many of these cities in the U.S. incorporate climate change mitigation into overall sustainability plans, which are generally framed as an opportunity to create wealth, social equity and environmental benefits for the city (Rosan, 2012).

Although taking action for sustainability at the city level is generally a good thing, there have been documented cases where city sustainability planning has made inequalities worse because social issues were not properly addressed (Rosan, 2012; Checker 2011; Hagerman 2007). Checker (2011), for example, explored the gentrification of Harlem and the concern of residents that new green space proposals were more for attracting new residents to the area instead of serving existing residents, who will be displaced as housing prices increase. Similarly, Dale and Newman (2009) reviewed the sustainable developments of Dockside Green and Kensington Market, in Vancouver and Toronto respectively, and found the “greening” of these neighbourhoods generally made them unaffordable for many previous or would-be residents.

Essoka (2010) analyzed the demographic changes that resulted from brownfield redevelopments in cities and found that in 61% of the sites displacement of Black residents occurred and in 14% of the sites Latino residents were displaced. These examples, and many others, demonstrate that sustainability planning is not always socially just and highlights the importance of including environmental justice considerations in city sustainability planning (Dale & Newman, 2009). Unfortunately, this does not appear to be happening.

In 2002, Warner conducted a survey of major cities in the U.S. to examine how environmental justice was (or was not) being incorporated into urban sustainability efforts. It was found that 40% of the largest cities in the U.S. (33 out of 77) had publicized sustainability efforts but only five of these cities dealt with environmental justice (Warner, 2002). Of the five cities that acknowledged environmental justice in their sustainability plans, only one city, San Francisco, had made any effort to incorporate environmental justice into measurable indicators (Warner, 2002). A follow up study completed in 2009 found that limited progress had been made; there were still only a small percentage of cities incorporating environmental justice into sustainability plans (Pearsall & Pierce, 2010). While 80 of the 107 cities analyzed in the follow up study now had sustainability plans, and 31 of those cities acknowledged environmental justice concerns, only eight included environmental justice indicators (Pearsall & Pierce, 2010). These studies highlight the fact that many urban sustainability plans are not making environmental justice a high priority or key concern.

In addition to the limited inclusion of environmental justice in city sustainability plans, those cities that do include environmental justice elements have shown a narrow understanding of the

true relationship between environmental justice and sustainability (Pearsall & Pierce, 2010). As discussed in previous sections, to achieve environmental justice the three principles of distributional justice, procedural justice, and recognition should be in place. Cities that incorporate only one factor of environmental justice, such as distributional justice, are not demonstrating that they understand the underlying multifaceted causes of environmental injustices (Pearsall & Pierce, 2010). Pearsall & Pierce (2010) used the example of Jacksonville's sustainability plan, which included indicators to measure racism and employment opportunities as a means of addressing environmental justice. Pearsall & Pierce (2010) emphasize that, while these indicators are important, they are not enough to address and monitor the full range of environmental justice concerns within the city.

Since cities are proving to be the major centres of action for sustainability planning, and we know that sustainability plans must incorporate environmental justice concerns in order to be truly sustainable, how do we improve our city planning efforts? The overarching requirement appears to be assuring that the social dimension of sustainable development is given equal importance in city planning efforts as the economic and environmental dimensions. The social dimension of sustainability has historically been the weakest link (Lehtonen, 2004) and this may account for many of the disconnections between environmental justice and city sustainability planning that we are seeing today. The question that must be answered, and one of the key challenges for cities, is how to take the overarching requirements for social sustainability and operationalize them effectively in planning efforts (Pearsall & Pierce, 2010).

For sustainability planning to effectively operationalize environmental justice principles and strengthen the social dimension of sustainability, the planning efforts must incorporate a clear set of objectives or strategies that cover all dimensions of environmental justice, a set of detailed actions to be taken, and finally a set of indicators that can be used to measure and assess progress (Pearsall & Pierce, 2010). The inclusion of indicators that are not only measurable but that also address the distributional, procedural, and recognition dimensions of environmental justice appears to be a key component. As noted previously with the City of Jacksonville example, indicators that do not cover the range of requirements for addressing environmental justice will not be enough to effectively measure progress on environmental justice concerns (Pearsall & Pierce, 2010). As well, simply putting in place the procedural components of environmental justice does not ensure a just outcome. Maantay (2001) notes the difference between “process” justice and “outcome” justice. While process “justice” (i.e. the procedural dimension of environmental justice) is important in ensuring that all community members have equal access to participate in decision-making processes, it does not guarantee that the outcome of the decision will also be fair (Maantay, 2001). Maantay (2001) uses the example of the decision-making process for where to site a waste facility. A fair procedural process will ensure that all community members can participate in determining where the facility is located. In the end, however, the facility will be sited somewhere, which means there will be some people disproportionately impacted by the decision, even though they were fairly included in the decision-making process. A fair outcome for all might be a reconsideration of whether the facility is required in the first place or a requirement that the facility must reduce its environmental hazards so that even those near the site will not be exposed to additional environmental risk (Maantay, 2001). A

comprehensive set of indicators that assess the actual outcomes of a planning process or decision is therefore very important for ensuring the decision is in fact fair.

In the following section, I look in greater detail at how the City and County of San Francisco, CA dealt with the challenges of incorporating environmental justice into sustainability planning in order to inform my analysis of what a city needs to consider in creating a sustainable place for all people.

5.1. Environmental justice & sustainability planning in San Francisco, CA

In Warner's (2002) study on environmental justice in local sustainability initiatives, it was found that, in the U.S., only 5 of 77 cities examined had sustainability plans that addressed environmental justice in some form. Of those five cities, San Francisco had the most comprehensive treatment of environmental justice in its sustainability plan. In a follow up study by Pearsall and Pierce (2010), limited progress had been made in the same selection of major U.S. Cities. The reason for this may be a continued misunderstanding by policy-makers of exactly what environmental justice is. Pearsall & Pierce (2010) found that while cities overall were doing better at incorporating indicators to assess social sustainability, they were still assuming that a better quality of life in general for the city meant a better quality of life for all. This assumption was revealed in the fact that the majority of indicators used in city sustainability plans did not explicitly measure the outcomes for historically disadvantaged communities (Pearsall & Pierce, 2010). The one city that was actually doing a good job at this was again San Francisco, CA. San Francisco's Sustainability Plan included the most comprehensive treatment of environmental justice of any of the major cities examined (Warner 2002) and it monitored the

proportion of environmental pollution sources in historically disadvantaged communities with respect to San Francisco’s other communities (Pearsall & Pierce, 2010).

San Francisco is a compact city surrounded on three sides by the Pacific Ocean and San Francisco Bay. In 2010 San Francisco County had a population of 805,235 people, with 63% of the population between the ages of 15 and 64¹. Of the total population in 2010, 42% were white, 6% Black or African America, 15% were Hispanic or Latino, and 33% were Asian. Of the population 16 year of age or older only 69.2% were in the labour force and 8.2% of families were below the poverty level². In the 1990’s San Francisco started experiencing an influx of young professionals as a result of the expanding tech-economy of the Bay Area and Silicon Valley (San Francisco Department of Public Health, 2007). As the city was already experiencing housing shortages, the increased demand resulted in increased housing prices. The increased housing prices meant that lower-income tenants had difficulty finding affordable homes and often had to relocate as a result (San Francisco Department of Public Health, 2007). As the City attempted to manage the changing landscape without the aid of overarching community plans, tensions grew as some communities felt the decision-making process was ad-hoc and unfair (San Francisco Department of Public Health, 2007).

At around the same time, in 1993, the San Francisco Bay of Supervisors established the Commission on San Francisco’s Environment, who were given the responsibility of creating and implementing the City’s first sustainability plan (Sustainable City, 1999). The Commission on

¹ See San Francisco 2010 Census data available at:

http://www.dof.ca.gov/research/demographic/state_census_data_center/census_2010/documents/DP2010-San_Francisco_County.pdf

² See 2013 United States Census Bureau Data available at: <http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

San Francisco’s Environment first set out to establish a baseline of San Francisco’s environment, which was published in the report titled the *Environmental State of the City* (Sustainable City, 1999). This study set the stage for the development of the sustainability plan.

5.2. Development of San Francisco’s Sustainability Plan

Members of San Francisco’s Environment Commission, along with city agencies, businesses, environmental organizations, elected officials, and concerned individuals were brought together to form *Sustainable San Francisco*, the volunteer group that would eventually create the sustainability plan. Members of the general public who contacted Sustainable San Francisco were given the opportunity to participate in the process as well. To ensure transparency, all participants were listed on the plan’s official website (Sustainable City, 1999). Public comments were received through four public hearings that were held in June 1996 in addition to comments that were accepted in writing throughout the summer (Sustainable City, 1999). The completed plan was adopted as official policy of the City and County of San Francisco in July 1997 (Warner, 2002).

The inclusive nature of the group that developed the plan and the fact that it was not completed in isolation by City staff is a significant deviation from the common practice of having city staff develop a plan and separately consult the public for comments once a draft had been prepared. This process meant that individuals who volunteered their time to participate had the greatest opportunity for meaningful involvement in the process as they were directly involved in the plan’s development. In the final plan that was created, environmental justice concerns were at the forefront as part of the overarching goals of the plan. The plan also included a number of

environmental justice objectives and indicators that would measure the progress being made.

Whereas Pearsall and Pierce (2010) found that in 2009 many cities were still only providing a superficial treatment of environmental justice, San Francisco started off with actionable and measureable inclusion of environmental justice.

The plan included a number of topics that were either specific environmental topics (Air Quality, Biodiversity, Energy, Climate Change, and Ozone Depletion, Food and Agriculture, Hazardous Materials, Human Health, Parks, Open Spaces and Streetscapes, Solid Waste, Transportation, and Water and Wastewater) or topics that span across many issues (Economy and Economic Development, Environmental Justice, Municipal Expenditures, Public Information and Education, and Risk Management of Activities of High Environmental Risk) (Sustainable City, 1999). Under the Environmental Justice section of the plan the following overall goals were established (Sustainable City, 1999):

- 1) To establish meaningful participation in the decision-making processes that affect historically disadvantaged communities of San Francisco;
- 2) To create a vibrant community-based economy with jobs and career opportunities that allow all people economic self-determination and environmental health;
- 3) To eliminate disproportionate environmental burdens and pollution imposed on historically disadvantaged communities and communities of color;
- 4) To create a community with the capacity and resources for self-representation and indigenous leadership; and

- 5) To ensure that social and economic justice are established as an integral aspect of environmental well-being and sustainability.

Similar to the other topics, these environmental justice goals were supported by a set of objectives and indicators that would be used to assess progress made on achieving the goals.

Table 1 provides an example of the more detailed long-term and 5-year objectives along with the corresponding actions.

Table 1: Environmental Justice goals from San Francisco's Sustainability Plan (Source Sustainable City, 2002)

Goal 1: To establish meaningful participation in the decision-making processes that affect historically disadvantaged communities of San Francisco.	
Long-term Objective: 1-A. Both the marginalized and the powerful communities in San Francisco share in the responsibility for preserving San Francisco’s ecological and social environment.	
5 Year Objectives	Actions
1-1. Information about decision-making processes is made accessible in culturally and linguistically appropriate formats.	1-1-a. Broadly publicize meetings;
	1-1-b. Direct outreach into all communities;
	1-1-c. Have a pool of translators and interpreters available at all times;
	1-1-d. Translate documents and agendas; and
	1-1-e. Hold meetings in affected communities on a wide range of sustainability issues.
1-2. Community education about issues that affect historically disadvantaged communities, and the decision-making process is supported.	1-2-a. Create an environmental resource center where residents can gain access to information about environmental hazards in their communities; also create a community-initiated system for collecting, analyzing, and disseminating information about environmental hazards in various communities.
	1-2-b. Ensure that information regarding present and future public policies reaches all residents of San Francisco; including disseminating information via non-traditional forums such as religious institutions, schools and community-based organizations.

	1-2-c. Recognize and financially support urban, community-based environmental education programs.
1-3. Decision-making bodies and processes have adequate and direct representation of affected communities.	1-3-a. Include proportional representation from historically disadvantaged groups in all decision-making bodies. (Candidates for these positions should be chosen by and reside in the communities they wish to represent.)
1-4. All residents of San Francisco participate as equal partners at every level of decision-making processes, including planning, implementation, enforcement and evaluation.	
1-5. Community awareness of policies and plans affecting the communities of San Francisco has increased.	

In addition to the environmental justice goals there were also three general community indicators that were identified to assess progress in environmental justice overall (as quoted in Warner 2002):

- Mean level (i.e. average number) of people in historically disadvantaged communities
- Proportion of environmental pollution sources in historically disadvantaged communities with respect to San Francisco’s other communities
- Participation of historically disadvantaged communities as a whole and their indigenous self-selected representatives in decision-making processes

The inclusion of a set of detailed actions and measurable indicators to address environmental justice concerns set San Francisco well apart from all other cities in the United States at the time who were either only providing cursory attention to environmental justice or not addressing it at all.

Environmental justice considerations were also found under other topics within the Sustainability Plan, such as under Hazardous Materials. As environmental hazards are the most commonly assessed issue for environmental justice, it is not surprising that in San Francisco’s assessment, environmental justice would be addressed here. Goal 3 of the Hazardous Materials section specifically states:

To ensure that the impact of hazardous materials and wastes is not felt disproportionately by any one community or segment of population (Sustainable City, 1999)

The indicator that deals directly with this issue measures the “Equitable distribution of the hazardous material/waste exposure load throughout the City” (Sustainable City, 1999).

Though environmental justice was given a distinctive topic within the sustainability plan and it is addressed under the Hazardous Materials sections, the plan was still mainly focused on the distribution of environmental harms and procedural justice. The plan did not mention environmental justice issues under the section for Parks, Open Spaces and Streetscapes or the Human Health Section.

5.3. Implementation and Evolution of Environmental Justice in San Francisco

To implement the Sustainability Plan a new Department of the Environment was formed over the winter of 1996-7 (Sustainable City, 1999). This was the first environmental department in San Francisco’s history and its main responsibility was to begin implementing the Sustainability Plan (Sustainable City, 1999). While implementation of the Sustainability Plan appears to have remained with the SF Environment department over the years, the main location for environmental and social equity programs appears to have transitioned to the San Francisco

Department of Health under the Program on Health, Equity and Sustainability. The Program on Health, Equity and Sustainability is “an inter-disciplinary team at the San Francisco Department of Public Health that works in partnership with residents, public agencies and private organizations to advance healthy environments and social justice” (San Francisco Department of Public Health, 2015).

The transition appears to have begun with the events that led up to the development of the Eastern Neighbourhoods Community Health Impact Assessment (ENCHIA). As noted previously, at about the same time as the Sustainability Plan was being developed, in the late 1990's, the City and County of San Francisco was experiencing a housing shortage as a result of a large number of young people moving to the area to take advantage of the Silicon Valley economic boom (San Francisco Department of Public Health, 2007). The housing shortage caused prices to increase dramatically making it difficult for lower-income families to find appropriate accommodations (San Francisco Department of Public Health, 2007). Though the City initiated rezoning to create more residential areas, community members currently residing in those rezoned areas were concerned that their homes and jobs would be displaced, particularly in the eastern and south-eastern neighbourhoods that were primarily industrial and mixed-use (San Francisco Department of Public Health, 2007). Though the Planning Department maintained its role in the rezoning of lands, it was eventually determined that the Department of Public Health would take the lead on a project to assess the health and social impacts of the planned rezoning of the east and south-east neighbourhoods, in partnership with the concerned community members and the Planning Department (San Francisco Department of Public Health, 2007). The San

San Francisco Department of Public Health (SFDPH) agreed to complete the project mainly because of the following four key factors:

- Concern from community members regarding the pace of development and fears of displacement of their jobs and their homes;
- SFDPH recognized the link between environmental health and justice issues in San Francisco and decisions made on land use and transportation within the city;
- Nationally, attention was being drawn to the link between the built environment and health; and
- Internationally, tools were being developed for assessing health impacts, such as the Health Impact Assessment methodology (San Francisco Department of Public Health, 2007).

The major development coming out of the Eastern Neighbourhood Community Health Impact Assessment (ENCHIA) was the creation of the Healthy Development Measurement Tool (HDMT), which was launched in March 2007. The HDMT is a specific methodology used to evaluate the Eastern Neighbourhoods in particular, but also other plans as well as other land use development policies, plans, and projects (San Francisco Department of Public Health, 2007). The HDMT provides land use planners, public agencies, and community stakeholders with a set of metrics to assess the extent to which urban development projects, plans, and policies affect health. The HDMT was adapted by a number of other cities including Richmond, California, Denver, Colorado, Galveston, Texas, Oakland, California, Philadelphia, Pennsylvania and Geneva, Switzerland (Sustainable Communities Collective, 2012).

In 2012, the Sustainable Communities Index (SCI) was built on the work of the HDMT and launched in order to provide an open-source international platform for using urban sustainability indicators (Sustainable Communities Collective, 2012). In 2014, the SCI was transitioned into the SF Indicator Project, which is an online framework and data repository that examines how San Francisco neighbourhoods perform across eight dimensions of a vision for a healthy, equitable community (SF Department of Public Health, 2014). The eight community well-being dimensions in the SF Indicator Project include: environment, transportation, community cohesion, public realm, education, housing, economy, and health systems community (SF Department of Public Health, 2014). Each well-being dimension contains multiple objectives, and one or more indicators measure each objective. The information collected through this project is being used to inform planning and policy development throughout San Francisco (Sustainable Communities Collective, 2012).

5.4. Lessons drawn from San Francisco

It is clear from the organization of the group drafting the Sustainability Plan to the very prominent role that environmental justice plays in the overarching goals, objectives and indicators in the plan that San Francisco’s early sustainability efforts did a good job of at least setting the stage for a more just city sustainability platform. The development of the plan was inclusive from the beginning and did not leave public input to the final stage. It was also not superficial, as Warner (2002) found in many other U.S. sustainability plans, because it directly linked the acknowledgement of environmental justice issues with measureable indicators. Although the initial set of indicators was not broad enough to cover the wide range of issues that

would be required for a more comprehensive coverage of environmental justice issues today, it was at least a start and led to the much more detailed indicators now used in the SF Indicator Project. The link between the original Sustainability Plan and the most recent SF Indicator Project is not clear and it may be that responsibility for environmental justice has been dispersed to various city agencies over time. Minutes from a 2013 City and County of San Francisco Commission on the Environment meeting highlighted the fact that since the creation of the Sustainability Plan, a number of other city agencies had created their own sustainability plans and the Mayor’s office also had a strategy in place, called SFForward, that included environmental policies (City and County of San Francisco Commission on the Environment, 2013). It was suggested that a coordinated effort be made with all stakeholders on a future plan or citywide strategy.

Though it appears that the Sustainability Plan from 1997 is still in effect, a current link to the plan on the City and County’s website or the SF Environment department’s website could not be easily found. The SF Environment Department website includes a section on Education and Equity, where issues of environmental justice are discussed, but this does not appear to be linked to the Sustainability Plan or other policy³. It is therefore unclear outside of the acknowledgement on the SF Indicator Project’s website that data from the project is being used to inform planning and land use decisions, whether or not the Planning, Environment and Public Health agencies are collaborating on an overall strategy to address environmental justice and sustainability.

³ See <http://www.sfenvironment.org/education-equity> for information.

There does appear to be some disconnection that may have occurred over time as environmental justice and sustainability were taken up by several agencies and groups within the city government. The original Sustainability Plan also does not appear to have been updated since its adoption and an analysis of its success was not readily available. It is therefore difficult to judge the effectiveness of the plan and know where improvements are required. Bringing the various sustainability plans that have been developed in different city agencies together under an updated overall sustainability strategy would not only ensure the consolidation of city sustainability strategies, but also allow for the plan to be adapted to the current status of the city and incorporate the distribution of environmental benefits into the overall environmental justice framework.

Overall, the experience of San Francisco in incorporating environmental justice into city sustainability planning demonstrates the importance of having meaningful public involvement from the beginning and the identification of environmental justice objectives, actions, and indicators. The apparent disconnect between city agencies and individual agency plans, however, also demonstrates the importance of ensuring coordination within the city government to ensure environmental justice is effectively addressed and not lost between departments.

6.0 Criteria for Environmental Justice in City Sustainability Planning

Based on the previous discussions of environmental justice, sustainability, and how environmental justice can be incorporated into city sustainability planning, the following criteria appear to be the most important for achieving a sustainable city for all people:

- Acknowledge at the outset of any sustainability effort that sustainability cannot be achieved if it is only experienced by some and not all. The social dimension of sustainability is equally important to the economic and environmental dimensions.
- Acknowledge and operationalize the five equity principles as described by Haughton (1999): intergenerational equity, intra-generational equity, geographic equity, procedural equity, and inter-species equity.
- At a minimum, the distributional and procedural dimensions of environmental justice must be incorporated into specific sustainability strategies and actions.
- A baseline study should be completed in order to identify the existing and potential environmental inequities within a community. The baseline information needs to be gathered from, at a minimum, a neighbourhood level in order to provide a more accurate picture of the experiences of individual residents.
- Indicators that measure the distributional and procedural outcomes of sustainability planning efforts at the neighbourhood level must be included in order to ensure that efforts to include environmental justice are making a difference in the communities that have historically been disadvantaged or marginalized.
- The structure of the participation process should be redesigned to create a meaningful collaborative effort from the beginning of the process in order to avoid creating a situation where community members can only react to proposed plans or development. Forcing residents into a reactionary mode where they argue their position against the position of the City creates a confrontational atmosphere and reduces the potential for meaningful dialogue.

- Create and implement a process for monitoring information gathered through indicators and use the data to adjust sustainability planning efforts accordingly.
- Ensure coordination between city departments so that efforts to address sustainability and environmental justice remain effective and are not diluted under multiple uncoordinated plans and strategies.

Given the above potential criteria for incorporating environmental justice into city sustainability planning, we can now look to the Canadian context to assess how these would apply.

7.0 Sustainability & Environmental Justice in Canadian Cities

The environmental justice movement in Canada has not garnered the same level of awareness as it has in the U.S., though this in no way means that environmental injustices are not occurring. The struggle of Aboriginal peoples in Canada over the loss and destruction of their traditional homelands that has been taking place for centuries is one of many on-going examples of environmental injustice in Canada (Haluza-Delay, O'Riley, Cole, & Agyeman, 2009). Dale and Newman (2009) also identified injustices occurring in sustainable developments in Vancouver and Toronto through gentrification and displacement of previous residents. Much like Europe, Canada does not have the same racial discourse as the U.S. and our predominantly resource-based economy creates a unique situation that differs from the U.S. where hazardous waste facilities are a more prominent issue (Haluza-Delay, O'Riley, Cole, & Agyeman, 2009).

The majority of environmental justice research in Canada is rightly focused on Aboriginal peoples as they experience a wide range of environmental injustices in addition to having higher

poverty rates, poorer housing, lower levels of formal education, lower employment levels, and poorer health (Haluzá-Delay, O'Riley, Cole, & Agyeman, 2009). Consequently, it appears that little attention has been paid in the Canadian research on how environmental justice is incorporated in to city sustainability planning. Studies similar to that of Warner (2002) and Pearsall and Pierce (2010) could not be found for a Canadian context so the extent to which environmental justice is being incorporated in sustainability planning within Canadian cities is unknown. Haluzá-DeLay and Fernhout (2011), however, did analyze English-speaking environmental non-government organisations (ENGOS) in Canada to assess whether or not they addressed social equity or justice. In their assessment of 49 organizations they found only four that included a discourse on social inclusion or justice. Of the four organisations identified, three were not strictly oriented towards environmental matters suggesting that overall the discourse on social inclusion and justice in mainstream Canadian environmental organisations is likely to be very limited (Haluzá-DeLay & Fernhout, 2011).

Even though environmental justice is not being taken up by major environmental organisations, there is evidence of local movements taking place within Canada. For example, Keil, Ollevier, and Tsang (2009) explored environmental justice issues in Toronto and found that there were many environmental justice initiatives underway, even if they were not labelled as such. They went on to suggest that in order to address the injustices taking place in Toronto, the City government needed to take action to recognize the inequality, racialization, and environmental injustices and design programs to address the interconnections between race, class, and space.

The structure of the Canadian government is such that authority for the management of various environmental and natural resources is divided between the provincial and the federal governments. Cities are, in general, creatures of the province and so have a constrained ability to manage certain aspects of the environment, such as natural resource extraction, which is governed by the province. This creates a unique situation in Canada where, although environmental injustices may be experienced in a city, the city may have limited ability to mitigate those harms without the involvement of other levels of government. On the other hand, cities in Canada do still have control over land use and community development so are in a position to effect real change in how people experience their immediate environment.

8.0 Sustainability Planning and Environmental Justice in the City of Ottawa

The City of Ottawa is Canada’s National Capital and home to about 883,000 people⁴. The majority of the population (70%) is between the ages of 15 and 64 and approximately 23% of the population is considered a visible minority and 2% are Aboriginal⁵. Ottawa has a highly educated population with 50% of people having a postsecondary certificate, diploma or degree. Ottawa is also a very green city in terms of the natural areas present, with over 850 parks and thousands of hectares of municipal forests, wetlands and other natural areas within the city boundaries (City of Ottawa, 2006). The city does have its share of poverty, however, with over 22% of households spending over 30% of their annual income on housing alone⁶.

⁴ See Statistics Canada 2011 Census Data: <https://www12.statcan.gc.ca/census-recensement/2011/as-sa/fogs-spg/Facts-csd-eng.cfm?Lang=Eng&GK=CSD&GC=3506008>

⁵ See 2011 National Household Survey: <https://www12.statcan.gc.ca/nhs-enm/2011/dp-prof/details/page.cfm?Lang=E&Geol=CSD&Code1=3506008&Data=Count&SearchText=ottawa&SearchType=Begins&SearchPR=35&A1=All&B1=All&Custom=&TABID=1>

⁶ *ibid*

A 2013 survey by Corporate Knights Magazine ranked Ottawa as the most sustainable city in Canada and third overall in North America, just behind 2nd place Washington, DC and first place San Francisco⁷. The survey examined five categories: environmental quality; economic security; governance and empowerment; infrastructure and energy, and social well-being. Ottawa scored well in terms of having the greatest percentage of green space among the 20 cities surveyed, and performed well on water quality and air pollution levels. However, the City only ranked 11th for social well-being. So how well does it score in terms of environmental justice?

Surprisingly, even though the City of Ottawa is ranked as the most sustainable city, it does not currently have an overall sustainability plan in place. On February 21, 2012, the City of Ottawa's Environment Committee received a submission from the Infrastructure Services and Community Sustainability department regarding the long-term sustainability initiative titled *Choosing Our Future*, which included the Sustainability and Resilience Plan along with two sub-plans: the Energy and Emissions Plan and the Risk Prevention and Mitigation Plan. The *Choosing Our Future* plans were an initiative of the City of Ottawa in partnership with the City of Gatineau and the National Capital Commission to "guide Canada's Capital Region towards a more liveable and prosperous future" (Schepers, 2012). The report was accepted by the Environmental Committee and brought before City Council on February 22, 2012. Although the plans were accepted by City Council, they have since been left with no further action and remain as un-adopted plans.

⁷ See link to media article (<http://metronews.ca/news/ottawa/690374/survey-finds-ottawa-most-sustainable-city-in-canada/>) and the Corporate Knight's Magazine edition (<http://www.corporateknights.com/magazines/2013-best-50-issue/>)

Though the plans were never adopted by City Council and so are not official policy of the City, the Sustainability and Resilience Plan does represent the City of Ottawa's most recent attempt at sustainability planning and warrants a high-level investigation into how well it would have addressed issues of environmental justice. It should be noted that the following review is not meant to be an in-depth case-study of environmental justice in the City of Ottawa but rather a review of whether or not environmental justice appears to be present in the City's planning processes for sustainability and how it could potentially be improved based on the criteria outlined in Section 6.

8.1. *Choosing Our Future – does it include environmental justice?*

The *Choosing Our Future* initiative was started in 2008 as an innovative joint planning project to provide a common sustainability framework for the three partners: City of Ottawa, City of Gatineau and the National Capital Commission. The development of the plan went through a five-step process and included various public consultation events over the four-year timeframe.

While the public appears to have been involved throughout the process, it is unclear if previously excluded or marginalized communities were involved. The submission report to the Environment Committee notes that the first step, *Defining the Challenge*, was completed through a day-long Futures Forum, where community leaders listened to an expert panel in order to debate the issues (Schepers, 2012). The public was then asked to attend a number of events to establish the vision (step 2) and choose the path forward (step 4) (City of Ottawa, 2012). In comparison to the process taken by Sustainable San Francisco, the City of Ottawa had adopted the more traditional approach of inviting the public in to provide comment on the plan but not

necessarily have a hand in writing it. Consequently, the success of the plan in ensuring fair and meaningful participation of all residents in the decision-making process is not clear.

The assessments conducted by Warner (2002) and Pearsall and Pierce (2010) praised San Francisco for identifying a set of environmental justice indicators that could be measured to assess actual progress. It was the defining feature that set San Francisco apart from other U.S. cities that appeared to only acknowledge environmental justice in a cursory manner. The *Choosing Our Future* plans were based on the 2011 Sustainability Baseline Report, which assessed a number of indicators to give a snapshot of the current status of sustainability in the region and would serve as a platform for monitoring change and progress towards the goals of the plan. Table 2 lists the 16 indicators that were assessed in the baseline study. The study looks at the current state of the region and compares it to other major Canadian cities to get an idea of how the city is performing overall. As is evident from the list of indicators in Table 2, there is no mention of social equity and environmental justice, and the Social Well-Being Indicators only include a measure of the number low-income households.

Table 2: 2011 City of Ottawa Sustainability Baseline Indicators (City of Ottawa, 2011)

Our Common Future Goals	2011 Sustainability Baseline Indicators
Social Well-being	1. Percentage of residents who walk or cycle to work
	2. Percentage of residents aged 15 and over with less than a high-school education
	3. Households paying 30% or more of their income on housing
Economic Prosperity	4. Percentage of residents aged 20-24 who are participating in post-secondary education, 2010
	5. Percentage of residents who are immigrants from another country
	6. Rates of volunteerism
Culture and Identity	7. Percentage of residents who are bilingual in both English and French

	8. Per capita spending by municipal governments on festivals and grants to non-profit organizations
	9. Consumption of agricultural land and other land for development
Healthy Environment	10. Greenhouse Gas Emissions per capita
	11. Daily vehicle kilometres travelled per capita
	12. Percentage of residents who commute by transit
	13. Apartment construction as a percent of new housing
	14. Total residential waste per capita and residential waste diversion rate
	15. Average number of litres of water used per person per day
	16. Water quality rating of the Ottawa River entering and leaving the region

Pearsall and Pierce (2010) provide recommendations for how environmental justice indicators could be revised to better incorporate justice concerns. They recommended that indicators should include both distributional and procedural components. To do this, information needs to be broken down to the community or neighbourhood level. The indicators in the Ottawa baseline study were for the region only and not broken down to the neighbourhood scale. They also do not address distributional or procedural components of justice.

Within the plan itself, environmental justice is not explicitly stated anywhere, however this does not mean that environmental justice is not addressed. As noted previously, there is no agreed upon definition of environmental justice and the range of environmental and social categories that are now encompassed within the environmental justice framework is quite broad (Walker, 2012). So while, environmental justice is not explicitly stated within the Ottawa plan, it could be addressed through other more subtle avenues.

The stated purpose of the Sustainability and Resilience plan is “to guide Canada’s Capital Region towards a more sustainable, resilient and liveable future” (City of Ottawa, 2011, p. IV).

The plan is progressive due to the fact that it acknowledges resiliency as a requirement for long-term sustainability. However, while a number of future challenges to long-term sustainability are identified, inequality and environmental pollution or degradation are not highlighted, though the impacts from climate change and resource scarcity are. This suggests that they are not considered significant problems for the City of Ottawa or at least not in terms of achieving a sustainable city.

Though the plan does not explicitly state inequality or environmental justice as issues, it does address, at a high level, the need to support vulnerable populations. Social development, social capital and social sustainability are all mentioned at various points in the document. Social sustainability is described in the document as “whether people can meet their basic needs and achieve their individual potential as well as contribute to the overall well-being of their communities” and it is “linked to the concept of social capital, which is a key component of a preventative approach to health and community well-being” (City of Ottawa, 2011, p. 21).

Section 3.0 of the Plan outlines the principles and goals of a sustainable, liveable, and resilient region. In this section the goals of Health and Quality of Life, Economic Prosperity, Governance and Decision Making, Housing, and Food and Agriculture refer either directly or indirectly to social equity in term of ensuring that all people enjoy a high quality of life and are part of the decision-making process. Again, although the plan makes reference to the idea of social equity, the inclusion of environmental justice is very subtle in comparison to the precedent set by San Francisco as it is only inferred by various references to “all people”.

Section 5.0 of the Plan outlines the 10 overarching themes for sustainability, each containing detailed strategies and examples of actions that could be taken to implement the strategies. By including “Support Social Development” as one of the main themes of the Sustainability and Resilience Plan, the City is acknowledging that social development and social sustainability are key components of overall sustainability. Section 5.7 of the Plan (Support Social Development) provides four broad strategies for supporting social development and each strategy includes a number of example actions that could be taken. Even though the actions are only provided in the document as examples and would therefore not be required if the plan was adopted, it still provides a level of granularity required to implement the strategies for improved social development. Table 3 lists the four social development strategies along with their corresponding example actions.

Table 3: Social Development Strategies from the City of Ottawa Sustainability and Resilience Plan (2012)

Strategy 1: Focus on prevention of health and social problems
Example Actions: <ul style="list-style-type: none">• Increase awareness of the importance of social infrastructure. Social infrastructure includes the organizations, services, and social structures that support a healthy society• Strengthen the local not-for-profit sector’s ability to provide services that respond to community needs• Continue to support economic development strategies that include opportunities to combine on-the-job experience with education• Provide support for programs and facilities, such as bicycle lanes and community gardens, which emphasize developing positive relationships and healthy lifestyles featuring exercise, good nutrition, and other aspects of good health• Create streets that are safe and convenient for all users, and include benches and meeting places as well as safe cycling facilities
Strategy 2: Increase community-based initiatives
Example Actions: <ul style="list-style-type: none">• Continue to support Gatineau’s Plan on Social Development, and look for ways to integrate lessons from this approach into other areas

- Build on Ottawa’s pilot projects between the health department and parks and recreation department to encourage exercise and healthy living among immigrant communities and vulnerable populations
- Create opportunities for community liaison staff from police, health, recreation and other areas to work together and with the community
- Broaden participation in community- based initiatives by involving a broader range of interests (e.g., business, cultural, education)
- Enhance partnerships with community-based organizations to deliver social, community health, recreation and cultural programs
- Provide tools and assistance to communities to identify ways to enhance community vitality and resilience by building on local assets (physical, social, economic, cultural, etc.)

Strategy 3: Improve social inclusion, engagement and participation

Example Actions:

- Provide a mix of workspaces, services and housing types and tenures, including affordable housing, so that singles and families and a range of income groups can be accommodated in complete communities
- Review policies at recreational facilities to increase access to programs for all residents, especially people living on low income, those with differing abilities, and new immigrants
Demonstrate inclusion by reviewing corporate hiring practices to create more opportunities to support cultural and ethnic diversity in filling summer, internship, and permanent positions
- Leverage emerging communications technology to increase engagement in the community
- Expand translation services for non-official languages
- Develop an on-line forum to connect different communities in the Region to seek creative solutions to social, cultural, environmental and economic issues
- Create a Capital Youth Strategy that addresses the opportunities and challenges facing youth in areas such as education, employment, and opportunities to volunteer and become involved. Open channels for a voice for youth in discussions of diversity and other public interests

Strategy 4: Promote flexible and adaptable use of space

Example Actions:

- Review current open space, park and public rights-of-way standards for barriers and opportunities for a greater range of uses, including cultural exhibits and activities, permanent or temporary events and potentially also renewable energy or other infrastructure for environmental sustainability
- Work with planning or architecture schools and the development community on designs and municipal policies that facilitate a mix of housing types within the same block or small area and that create spaces that invite interaction and activity
- Look for opportunities to create neighbourhood hubs in schools or in under-utilized municipal spaces, to increase community use for gatherings, recreation, community gardens, arts and cultural activities. This will also enhance safety and security during off-peak hours
- Create and maintain a web-based inventory of community assets for use by the public and local groups for recreational, leisure or cultural pursuits

The strategies and example actions do a good job of linking outdoor recreation, parks and greenspace to the health and well-being of vulnerable communities. Since it is well established that outdoor recreation and activities has a positive impact on human health and well-being and because, as mentioned previously, the City of Ottawa has an abundance of green spaces and parks, promoting greater use of existing green amenities within the city is an obvious way to promote social development. Strategy 2 is focused on increasing the ability of all community members to engage and participate, however the places of engagement appear to be generally focused on community activities and initiatives and not necessarily in City government decision-making processes.

Section 6.0 of the Sustainability and Resilience Plan discusses how the plan is to be implemented and monitored. Overall, the Plan is a guiding document for the three partner communities of the City of Ottawa, the City of Gatineau, and the National Capital Commission. Each community is to use the Plan as a guidance document for the development of their own supporting sustainability plans. Section 6.0 also discusses the need to monitor progress using the indicators identified in the baseline study along with additional local indicators that would provide a broader measure of success.

8.2. How can the City of Ottawa improve it’s sustainability planning?

Overall, the Sustainability and Resilience plan already has in place many of the criteria outlined in Section 6 of this report. The plan acknowledge that there needs to be a fair and open process for governance and that access to housing, economic opportunities and food are not necessarily equal for everyone so must be addressed if the City is to be sustainable and resilient.

It includes detailed strategies and actions that are supported by measurable indicators. However, it lacks specific goals and indicators measuring disproportionate environmental harm or benefit or directly measuring procedural justice, which suggests that, overall, environmental justice is not necessarily a top priority for the City in terms of sustainability planning or it is simply not seen as an issue.

Ottawa does not have a Chemical Valley like the City of Sarnia but that does not mean environmental injustices are not occurring here. The built environment is a known determinant of public health (Jackson, Dannenberg, & Frumkin, 2013) and any disproportionate environmental burdens or benefits can therefore disproportionately affect human health and well-being. A recent study by Prince et al. (2011), demonstrated that within the City of Ottawa, neighbourhood characteristics do play a role in determining adult physical activity levels and obesity.

The City of Ottawa also already has a very useful tool that can be used to assess potential environmental injustices. The Ottawa Neighbourhood Study (ONS), which was started in 2005, is a collaborative effort out of the University of Ottawa that provides a database of information for understanding the health and well-being of Ottawa residents and neighbourhoods. The ONS combines 12 categories with 159 indicators, including demographic information, employment status, mother tongue, immigration status, low income, education, community resources, mobility status, community gardens, child school readiness and all municipally administered recreation sites.

A cursory assessment of the data provided by the ONS interactive online mapping tool demonstrates a potential environmental inequality within the City of Ottawa. Figure 1 presents the 108 Ottawa neighbourhoods, characterized by the percentage of households with an annual income (after taxes) of less than \$20,000 against the total area of parks and pathways per person. Based on this simple analysis, it would appear that the Ottawa neighbourhoods with the highest percentage of lower-income households also have the lowest total areas of parks and pathways per person. This assessment demonstrates that there are potential distributional environmental injustices occurring within the City of Ottawa that should be addressed in any future attempts at sustainability planning.

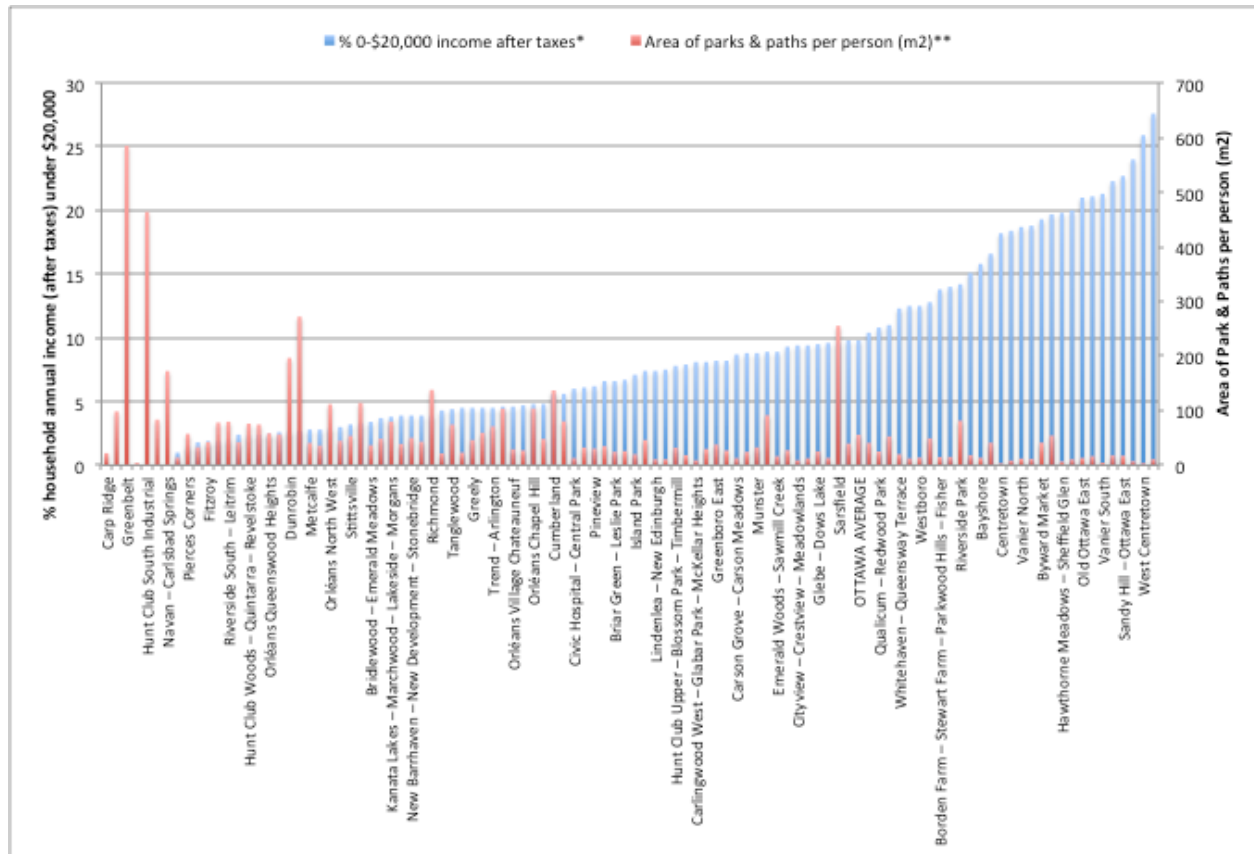


Figure 1: Neighbourhood comparison of percentage of households with annual income (after taxes) less than \$20,000 and area of parks/pathways per person (m²)

The Sustainability and Resilience Plan overall would provide the City of Ottawa with an excellent starting point for ensuring that environmental justice issues are effectively incorporated within city sustainability planning. The plan acknowledges the importance of the social dimension of sustainability, it provides specific strategies and actions to operationalize sustainability, and highlights the importance of using measurable indicators for monitoring progress over time. To improve the ability of the plan to address environmental justice issues, a more in depth assessment of the potential injustices occurring at the neighbourhood level within the City needs to be completed so that a more accurate picture of the city’s current status can be used as a baseline. The plan then also needs to ensure specific actions and indicators are applied

to any environmental justice issues identified, focusing on measuring both distributive and procedural outcomes of any proposed planning process or decision. Since the Sustainability and Resilience plan is currently not official City policy, there is a great opportunity for the City to use this document as a well-placed starting point for a new collaborative planning process that creates an improved sustainable City of Ottawa for all residents.

9.0 Conclusions

Environmental justice and sustainability are both aiming for the same future world vision – a world that provides a better quality of life for all within the limits of supporting ecosystems. The world is progressing more and more towards a concentrated population in urban centres where people's health and well-being is intimately tied to the quality of the built environment in which they live, work and play. The role of city governments in ensuring that the built environment is created and managed in such a way as to protect people against environmental harms and support people through environmental benefits will consequently become increasingly important. Given the magnitude of the responsibility of cities to provide a sustainable place it is surprising that more are not making a substantial link between sustainability and environmental justice.

On the bright side, my analysis of the sustainability plan of the City of Ottawa, a city where environmental justice concerns are not necessarily a high priority, demonstrates that it is likely that many cities who are committed to sustainability planning already have many of the tools and information required to ensure a just sustainability for all people. Adding the additional environmental justice lens to the process of sustainability planning already under way in most

cities has the potential to make the continued transition to a sustainable future a much more just one.

Given this paper's review of environmental justice, sustainability and city planning, and in addition to the criteria discussed in Section 6 of this report, some common themes and overarching points to note can be made:

- 1) *The process of developing a sustainability plan for a city may need to be reimagined.* The traditional way of having city staff create the plan and then request public comment may be worthwhile but it could be greatly improved if the process is put to the public from the very beginning and even given out to a newly formed third party group consisting of representatives from all communities.
- 2) *Indicators are required for identifying injustices and measuring progress to alleviate them.* Plans, goals, and strategies to ensure sustainability and a higher quality of life for all are not effective if progress towards achieving those goals cannot be measured.
- 3) *City wide or regional indicators are not granular enough to ensure some groups are not marginalized or left out of the process.* For example, a city-wide assessment of participation is not going to tell you whether people from a low-income neighbourhood are participating in public processes for decision-making. In order to ensure that procedural justice and recognition are being addressed, neighbourhood scale information is required.
- 4) *A truly sustainable city cannot be achieved if environmental injustices are not identified, measured, addressed, and monitored.* As long as all people do not have access to a

higher-quality of life, social injustices and inequalities will continually lead to unsustainable environmental systems.

*“First we shape the cities...and then they shape us”
~ Jan Gehl (2010), Cities for People*

10.0 Works Cited

- Agyeman, J. (2014). Environmental justice and sustainability. In G. Atkinson, S. Dietz, E. Neumayer, & M. Agarwala, *Handbook of Sustainable Development, Second Edition* (pp. 188-205). Cheltenham, UK: Edward Elgar Publishing.
- Agyeman, J. (2003). *Just Sustainabilities: Development in an Unequal World*. (J. Agyeman, R. D. Bullard, & B. Evans, Eds.) Cambridge: The MIT Press.
- Agyeman, J., & Evans, T. (2003). Toward Just Sustainability in Urban Communities: Building Equity Rights with Sustainable Solutions. *The Annals of the American Academy* , 590, 35-53.
- Agyeman, J., Bullard, R. D., & Evans, B. (2002). Exploring the nexus: Bringing together sustainability, environmental justice and equity. *Space & Polity* , 6 (1), 77-90.
- Boone, C. G., & Fragkias, M. (2013). Connecting Environmental Justice, Sustainability, and Vulnerability. In C. G. Boone, & M. Fragkias, *Urbanization and Sustainability: Linking Urban Ecology, Environmental Justice and Global Environmental Change* (pp. 49-59). Netherlands: Springer Netherlands.
- Bullard, R. D. (1990). *Dumping in Dixie: Race, Class, and Environmental Quality*. Boulder, Colorado, USA: Westview Press, Inc.
- Bullard, R. D., Mohai, P., Saha, R., & Wright, B. (2007). *Toxic Waste and Race at Twenty: 1987-2007*. Cleveland, OH: United Church of Christ Justice & Witness Ministries.
- Calloway, C. A., & Decker, J. A. (1997). Environmental Justice in the United States - A Primer. *Michigan Bar Journal* , 62-69.
- Checker, M. (2011). Wiped out by the "Greenwave": Environmental Gentrification and the Paradoxical Political of Urban Sustainability. *City & Society* , 23 (2), 210-229.
- City and County of San Francisco Commission on the Environment. (2013). *Policy Committee Meeting Minutes for February 11, 2013*. City and County of San Francisco.
- City of Ottawa. (2011). *2011 Sustainability Baseline*. Ottawa: City of Ottawa.
- City of Ottawa. (2012). *Choosing Our Future: A Plan for Sustainability and Resilience in Canada's Capital Region*. Ottawa: City of Ottawa.
- City of Ottawa. (2006). *Greenspace Master Plan: Strategies for Ottawa's Urban Greenspaces*. Ottawa: City of Ottawa.
- Dale, A., & Newman, L. (2009). Sustainable development for some: green urban development and affordability. *Local Environment* , 14 (7), 669-681.

- Essoka, J. D. (2010). The Gentrifying Effects of Brownfield Redevelopment. *The Western Journal of Black Studies* , 34 (3), 299-315.
- European Commission. (2015). The Aarhus Convention. Retrieved April 16, 2015 from The EU & the Aarhus Convention: in the EU Member States, in the Community Institutions and Bodies : <http://ec.europa.eu/environment/aarhus/legislation.htm>
- European Environmental Bureau. (2007). How far has the EU applied the Aarhus Convention? Brussels: European Environmental Bureau.
- Fitzmaurice, M., & Marshall, J. (2007). The Human Right to a Clean Environment - Phantom or Reality? The European Court of Human Rights and English Courts Perspective on Balancing Rights in Environmental Cases. *Nordic Journal of International Law* , 76, 103-151.
- Gehl, J. (2010). *Cities for People*. Washington, DC: Island Press.
- Hagerman, C. (2007). Shaping neighborhoods and nature: Urban political ecologies of urban waterfront transformations in Portland, Oregon. *Cities* , 24 (4), 285-297.
- Haluza-DeLay, R., & Fernhout, H. (2011). Sustainability and social inclusion? Examining the frames of Canadian English-speaking environmental movement organisations. *Local Environment* , 16 (7), 727-745.
- Haluza-Delay, R., O'Riley, P., Cole, P., & Agyeman, J. (2009). Speaking for Ourselves, Speaking Together: Environmental Justice in Canada. In J. Agyeman, P. Cole, R. Haluza-Delay, & P. O'Riley, *Speaking for Ourselves: Environmental Justice in Canada* (pp. 1-27). Vancouver: UBC Press.
- Haughton, G. (1999). Environmental Justice and the Sustainable City. *Journal of Planning Education and Research* , 18, 233-243.
- Hayward, T. (2004). *Constitutional Environmental Rights*. Oxford: Oxford University Press.
- Holifield, R. (2004). Neoliberalism and Environmental Justice in the United States environmental protection agency: Translating policy into managerial practice in hazardous waste remediation. *Geoforum* , 35, 285-297.
- Jackson, R., Dannenberg, A., & Frumkin, H. (2013). Editorial - Health and the built environment: 10 years later. *American Journal of Public Health* , 103 (9), 1542-1544.
- Keil, R., Ollevier, M., & Tsang, E. (2009). Why is there no environmental justice in Toronto? Or is there? In J. Agyeman, P. Cole, R. Haluza-DeLay, & P. O'Riley, *Speaking for Ourselves: Environmental Justice in Canada* (pp. 65-80). Vancouver: UBC Press.
- Laurent, E. (2011). Issues in Environmental justice within the European Union. *Ecological Economics* , 70, 1846-1853.

- Lavrysen, L. (2014). Access to Justice in environmental matters. Perspectives from the European Union Forum of Judges for the Environment. Nairobi: European Union Forum of Judges for the Environment.
- Lehtonen, M. (2004). The environmental-social interface of sustainable development: capabilities, social capital, institutions. *Ecological Economics* , 49 (2), 199-214.
- Maantay, J. (2001). Zoning law, health, and Environmental Justice: What's the Connection? *Journal of Law, Medicine & Ethics* , 30 (4), 572-593.
- Middleton, K., & O'Keefe, P. (2001). *Redefining Sustainable Development*. London: Pluto Press.
- NRDC. (2006). The Environmental Justice Movement. Retrieved April 14, 2015 from National Resource Defence Council: <http://www.nrdc.org/ej/history/hej.asp>
- Ottawa Neighbourhood Study. (2015). Ottawa Neighbourhood Study. Retrieved June 1, 2015 from Ottawa Neighbourhood Study: <http://neighbourhoodstudy.ca>
- Pearsall. (2012). Moving out or moving in? Resilience to environmental gentrification in New York City. *Local Environment* , 17 (9), 1013-1026.
- Pearsall, H., & Pierce, J. (2010). Urban sustainability and environmental justice: evaluating the linkages in public planning / policy discourse. *Local Environment* , 15 (6), 569-580.
- Prince, S., Kristjansson, E., Russell, K., Billette, J.-M., Sawada, M., Ali, A., et al. (2011). A multilevel analysis of neighborhood built and social environments and adult self-reported physical activity and body mass index in Ottawa, Canada. *International Journal of Environmental Research and Public Health* , 8, 3953-3978.
- Redclift, M. (1987). *Sustainable Development: Exploring the Contradictions*. London: Methuen & Co. Ltd.
- Rosan, C. D. (2012). Can PlaNYC make New York City "greener and greater" for everyone?: sustainability planning and the promise of environmental justice. *Local Environment* , 17 (9), 959-976.
- San Francisco Department of Public Health. (2007). *Eastern Neighborhoods Community Health Impact Assessment Final Report*.
- San Francisco Department of Public Health. (2015). *Program on Health, Equity, and Sustainability*. Retrieved June 20, 2015 from Program on Health, Equity and Sustainability: <http://www.sfhealthequity.org/>
- Schepers, N. (2012). *Choosing Our Future Long-Term Plans. Infrastructure Services and Community Sustainability*, City of OTtawa. Ottawa: City of Ottawa Environment Committee.

- Schlosberg, D. (2004). Reconceiving Environmental Justice: Global Movements and Political Theories. *Environmental Politics* , 13 (3), 517-540.
- Schroeder, J. (2014). Domestic Fuel. Retrieved June 20, 2015 from U.S. Mayors expand climate protection agreement: <http://energy.agwired.com/2014/06/25/u-s-mayors-expand-climate-protection-agreement/>
- SF Department of Public Health. (2014). The San Francisco Indicator Project. Retrieved June 20, 2015 from The San Francisco Indicator Project: <http://www.sfindicatorproject.org/>
- SF Environment. (2015). Policies for Environment Code. Retrieved June 20, 2015 from San Francisco Environment: <http://www.sfenvironment.org/policy/environment-code>
- Steger, T. (2007). *Making the Case for Environmental Justice in Central & Eastern Europe*. Budapest: CEU Centre for Environmental Policy and Law; The Health and Environment Alliance; The Coalition for Environmental Justice.
- Sustainable City. (1999). Sustainable City. Retrieved June 20, 2015 from Sustainable City: <http://www.sustainable-city.org/index.htm>
- Sustainable Communities Collective. (2012). Sustainable Communities Index History. Retrieved June 20, 2015 from Sustainable Communities Index: <http://www.sustainablecommunitiesindex.org/webpages/view/47>
- U.S. EPA. (2014). Plan EJ 2014. Retrieved April 15, 2015 from U.S. EPA Environmental Justice: <http://www.epa.gov/environmentaljustice/plan-ej/>
- UNECE. (1998). United Nations Economic Commission for Europe - Aarhus Convention. Retrieved April 16, 2015 from UNECE: <http://www.unece.org/env/pp/introduction.html>
- United Nations. (2014). World's population increasingly urban with more than half living in urban areas. Retrieved May 26, 2015 from United Nations: <http://www.un.org/en/development/desa/news/population/world-urbanization-prospects-2014.html>
- Walker, G. (2012). *Environmental Justice: Concepts, Evidence and Politics*. New York: Routledge.
- Warner, K. (2002). Linking local sustainability initiatives with environmental justice. *Local Environment* , 7 (1), 35-47.
- World Commission on Environment and Development. (1987). *Our Common Future*. Oxford: Oxford University Press.