LOCAL SOLUTIONS TO A GLOBAL PROBLEM? CANADIAN MUNICIPAL POLICY

RESPONSES TO CLIMATE CHANGE

by

Elizabeth Schwartz

B.P.A.P.M., Carleton University, 2006

M.A., University of Toronto, 2008

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF

THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

in

THE FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES

(Political Science)

THE UNIVERSITY OF BRITISH COLUMBIA

(Vancouver)

April 2016

Abstract

Urbanization and global warming are two of the most pressing issues facing humanity over the next 50 years. Why do some local governments enact more climate change mitigation policies than others? What makes some cities leaders in urban sustainability, while others lag far behind? Over the past decade, global climate change negotiations have repeatedly failed to produce binding commitments and robust responses by national governments. These failures have led academics and practitioners to put increasing emphasis on the potential for sub-national governments, including cities, to undertake commitments that might substitute for national action on climate change. Applying concepts from the comparative public policy literature to the study of urban politics, this dissertation puts forward and tests a new theory to explain variation in Canadian cities' climate change policy. I find that political economy factors reduce the likelihood that cities will adopt climate change policy that will significantly reduce greenhouse gas emissions, but the presence of independent municipal environment departments makes the adoption of such policy more likely. This dissertation employs a systematic and explicit process tracing methodology. It examines the decision-making of four Canadian cities (Brampton, Toronto, Winnipeg and Vancouver) across four policy areas (landfill gas management, fleet services, cycling infrastructure and building standards). The analysis is based on data gathered from primary and secondary sources and expert interviews with over 70 local politicians, bureaucrats, journalists, and NGO and business representatives. This dissertation argues that cities cannot solve the climate change challenge on their own, but knowledge of the dynamics of climate change mitigation policy adoption at the local level may permit scholars and practitioners to increase the effectiveness of municipal governments' climate change policy choices.

Preface

I identified and designed this research program in consultation with my supervisory committee. The research conducted for this dissertation was approved by the UBC Behavioral Research Ethics Board, Certificate Number H11-01286.

An early version of Chapter 6 has been published. Schwartz, Elizabeth. 2012. "Local Solutions to a Global Problem? A Study of Climate Change Policymaking in Vancouver" in *Local Climate Change Law: Environmental Regulation in Cities and Other Localities*, Benjamin J. Richardson, ed. Northampton, MA: Edward Elgar Publishing. I conducted all of the research, data analysis, and writing of the manuscript for this publication.

Table of Contents

List of Tables

List of Figures

List of Abbreviations

AIBC – Architectural Institute of British Columbia

AT – Active Transportation

ATAC – Active Transportation Advisory Committee (City of Winnipeg)

BC – British Columbia

BBAC – Brampton Bicycle Advisory Committee

BCCC – Brampton Clean City Committee

BEPAC – Brampton Environmental Planning Advisory Committee

BEST – Better Environmental Sustainable Transportation

BFIP – Bicycle Facilities Implementation Plan

CAO – Chief Administrative Officer

CAP – Clean Air Partnership

CBC – Canadian Broadcasting Corporation

CCF – Co-operative Commonwealth Federation

CO_2 – Carbon dioxide

CO_2e – Carbon dioxide equivalent

COP – Conference of the Parties [to the Kyoto Protocol]

COPE – Coalition of Progressive Electors

CPO – Causal-process observation

DVBIA – Downtown Vancouver Business Improvement Association

EC – Environmental Coordinator

EED – Environment and Energy Division (City of Toronto)

EPA – United States Environmental Protection Agency

EPC – Executive Policy Committee (City of Winnipeg)

EPO – Environmental Protection Office (City of Toronto)

FCM – Federation of Canadian Municipalities

GHG – Greenhouse gases

GMF – Green Municipal Fund

GRB – Green Roof By-law

GVRD – Greater Vancouver Regional District

ICLEI – ICLEI-Local Governments for Sustainability (formerly, International Council for Local

Environmental Initiatives)

IPCC – International Panel on Climate Change

LEED – Leadership in Energy and Environmental Design

LFG – Landfill Gas

MB – Manitoba

MCPI – Municipal Climate-Protection Index

MEAC – Mayor's Environmental Advisory Committee (City of Winnipeg)

MIP – Most Important Problem

MP – Member of [the federal] Parliament

MPP – Member of [the Ontario] Provincial Parliament

NDP – New Democratic Party

NEU – Neighbourhood Energy Utility

NGO – Non-governmental organization

NPA – Non Partisan Association

NRTEE – National Round Table on the Environment and the Economy

ON – Ontario

PCP – Partners for Climate Protection

PDD – Planning, Design and Development Committee (City of Brampton)

RFP – Request for Proposals

scfm – Standard cubic feet per minute

SEFC – South East False Creek

SPCPD – Standing Policy Committee on Property and Development

TAF – Toronto Atmospheric Fund

TCCC – Toronto City Cycling Committee

tCO_2e – Tons of carbon dioxide equivalent

TEA – Toronto Environmental Alliance

TEO – Toronto Environment Office

TGDS – Toronto Green Development Standard

TGS – Toronto Green Standard

TTC – Toronto Transportation Commission

UBC – University of British Columbia

UNFCCC - United Nations Framework Convention on Climate Change

WFMA – Winnipeg Fleet Management Agency

Acknowledgements

Chapter 1: Introduction

Urbanization and global warming are two of the most pressing issues facing humanity over the next 50 years. The International Panel on Climate Change (IPCC) reports that in the 2000-2010 period greenhouse gas (GHG) emissions were the highest in human history, and annual increases were nearly double those from 1970-2000. The IPCC also predicts that without additional mitigation efforts, global temperatures may rise as much as 4.8°C compared to pre-industrial levels (IPCC 2014a, 6-9) which is likely to lead to "severe and widespread impacts on unique and threatened systems, substantial species extinction, [and] large risks to global and regional food security" (IPCC 2014b, 14). More than half of the global population currently lives in urban areas, and the IPCC expects that by 2050 this figure will be closer to 65%. Moreover, urban areas produce a disproportionate share of per-capita emissions: in 2006, urban areas were responsible for 67-76% of global energy use and 71-76% of energy-related carbon dioxide emissions (IPCC 2014a, 26).

Despite these alarming numbers, global climate change negotiations have repeatedly failed to produce binding commitments and robust responses by national governments. In response, there has been an increasing emphasis by both academics and practitioners on the potential for sub-national governments, including cities, to undertake commitments that might substitute for national action to mitigate climate change (e.g., Coenen and Menkveld 2002; Robinson and Gore 2005; Bulkeley and Betsill 2003, 2013; Lee 2015). Cities around the world have undertaken climate action plans and many have signed intergovernmental agreements such

as the ICLEI-Local Governments for Sustainability (ICLEI) Climate Protection Program,[1] C40 Cities initiative, or the US Conference of Mayors Climate Protection Agreement. The rhetoric of urban sustainability has proliferated, but the adoption of policy by local governments has followed much more slowly.

Certainly some cities have made strides towards creating climate policy that reduces GHG emissions and that may support and encourage actions in other jurisdictions. However, most Canadian cities have adopted measures that are limited both in number and in the likelihood that they will lead to significant GHG reductions. Why do some local governments enact more climate change policies than others? What makes some cities leaders in urban sustainability, while others lag far behind? Specifically, why have the Canadian cities of Vancouver and Toronto been more successful than Winnipeg and Brampton in terms of adopting policy that is likely to substantially reduce GHG emissions? I argue that in most cities political economy factors limit the adoption of municipal climate change policy, but that dedicated environmental departments within the local government can help to overcome these barriers.

In this dissertation I maintain a focus on the role of cities in the development and adoption of climate change mitigation policy, but I challenge what I see as an overly celebratory tone in the local sustainability literature which suggests that cities are filling the regulatory gap left by stalled national and international climate change initiatives. The novel theory I present draws on insights from three bodies of work that can provide some insight into the general dynamics of policymaking, city politics, and local efforts to combat climate change. I look

---

[1] The International Council for Local Environmental Initiatives was founded in 1990, but was officially renamed ICLEI-Local Governments for Sustainability in 2003.

specifically to studies of the comparative politics of public policy, urban politics, and local climate change policy. I put a particular emphasis on causal mechanisms developed in the study of the politics of public policy.

The primary source of analytical leverage used here is process tracing (George and Bennett 2005). From a methodological perspective, this dissertation fills a gap in the local climate change literature which is dominated by single case studies and large-N statistical analyses. By using systematic and detailed process tracing in a small number of cases, this dissertation answers calls for rigorous research design in the study of urban politics (e.g., Denters and Mossberger 2006), and provides analysis that is sensitive to the contexts of each jurisdiction while still seeking generalizable conclusions. I use this approach to analyze primary and secondary documents as well as interviews I conducted with over 70 expert informants in four large Canadian cities. Both the cities and the specific policy initiatives examined in this dissertation were chosen using a rigorous and systematic case selection strategy, described in detail in Chapter 3.While the scale of generalization for such a study is less than that of large-N studies, this dissertation provides concrete conclusions about *how* various explanatory factors influence the creation of climate policy by local governments.

From a practical perspective, I hope that the findings of this dissertation will lead to a more nuanced and realistic evaluation of the current and potential contributions of cities to global climate change mitigation. Cities are not the magic bullet, but if we are aware of the dynamics of climate change policy adoption at the local level we can, as both scholars and practitioners, increase the effectiveness of municipal governments' climate change policy choices.

The remainder of this chapter provides a framework for the dissertation. I begin by establishing variation in climate change mitigation policy across Canadian cities before

providing a review of some of the work that has already been done on the subjects of local

climate change mitigation and urban politics more generally. The final section concludes with an

outline of the dissertation.

1.1   Establishing Variation in Municipal Climate Change Policy across Canadian Cities

This dissertation seeks to explain why we observe variation in the climate change

mitigation policy adopted by Canadian municipalities. To do so, I must first establish that such

variation exists. I define local climate change mitigation policy as an activity, practice or by-law

undertaken or adopted by the municipal government that leads to the reduction or prevention of

greenhouse gas emissions. Following Aall et al. (2007), the primary goal of the policy does not

have to be greenhouse gas emission reduction. Instead this can be a secondary goal or even an

unintended consequence. The source of the emissions the policies seek to mitigate can be public

sector (i.e. the municipal government – called "corporate emissions") or private sector (i.e.

citizens, business, or industry – called "community emissions"). I am also interested in the policy

instrument used to achieve greenhouse gas emission reductions. Importantly, in order to count as

a policy, the activity or regulation must be concrete. Action plans are not equivalent to policy.

There are two existing sources of data that I could use to measure municipal climate

change mitigation policy in Canada: the publicly available information regarding milestone

completion provided by the members of the Federation of Canadian Municipalities (FCM)

Partners for Climate Protection (PCP) program, and data collected by Robinson (2000) in her

survey of climate change actions by Canadian municipalities. Instead, I have opted to measure

Canadian municipal climate change policy using an original inductively derived inventory of

local climate policy.

The data from the PCP program is the Canadian version of the data used by Lee (2015). This data has a number of significant limitations for use in the context of this dissertation. First, the cities included are only those that have voluntarily chosen to join the program. Using this data as a measure of local climate change policy thus risks overestimating the variation in cities' climate change policies because those that are not members are assumed to have adopted no policy. In fact, as Robinson (2000) found, more municipalities take action to reduce greenhouse gas emissions than are members of the PCP program. Moreover, one of the primary explanations of the local climate change literature discussed below is that membership in organizations and networks such as the PCP *cause* the adoption municipal climate change policy. Using such data to establish variation in local policy would thus lead to an important endogeneity problem.

In 1998-1999 Robinson (2000) conducted a survey of all 392 Canadian municipalities with populations of over 10,000 residents, asking a series of 16 closed-ended questions directed at municipal staff. Robinson then classified municipalities as either Action Municipalities or No-Action Municipalities, finding that the majority (155 of 236 responding municipalities) had not taken any action to respond to climate change (Robinson 2000, 86). Of large municipalities – those with over 300,000 residents – 18 of 22 had taken some action whereas only 4 had not (Robinson 2000, 208). While this data was used effectively by Robinson and Gore (2005) in their analysis of barriers to municipal climate action, it is not suitable for the purposes of this dissertation.

Most importantly, Robinson's definition of "action" is too loose. Similar to Lee (2015), she starts with a list of eight generic "elements of an action plan to reduce emissions" (Robinson 2000, 86) and classifies a municipality as an Action Municipality if it has completed at least one of these elements. These elements are a slight expansion of the five milestones of the PCP

program, but like the PCP program milestones, only two involve adopting or implementing concrete policy.[2] Specifically, of the 81 Action Municipalities, only 24 report that they have either implemented "feasible initiatives" or "implemented [a] local action plan" (Robinson 2000, 87-90). Thus, while Robinson's data allows for comparing municipalities that have and have not implemented actions to reduce greenhouse gas emissions, her survey does not distinguish among types of policy adopted and therefore does not allow for comparisons *among* those municipalities that have adopted policy. It does not tell us what policy areas were addressed by the initiatives undertaken, nor their scope or the policy instrument used. Moreover, while one of the steps is to measure GHG reductions achieved, the data does not include the results of that measurement.

In order to develop a measure of municipal policy that would allow me to compare Canadian cities based on the specifics of the policies that they have adopted, I looked to the two primary approaches in the literature: deductive and inductive inventories. Deductive inventories are lists of potential policies created by the researcher or third parties. The number of policies that the jurisdiction has adopted from the list is its total score. The score may be used as an indicator of policy strength or scope, or of the commitment of the jurisdiction to action. This type of measure is both straightforward and reliable, allowing for direct comparisons between cities. Furthermore, using this type of measurement, data can be collected relatively easily for a large number of cases, making it compatible with large-N quantitative analysis techniques.

---

[2] The eight elements are: "1) Completion of an inventory of municipal energy use; 2) Calculation of municipality-wide CO_2 emissions; 3) Identification of a municipality-wide series of initiatives to reduce CO_2 emissions; 4) Evaluation of which emissions reductions initiatives will work for the municipality; 5) A CO_2 reduction target is established; 6) Development of a local action plan to achieve the CO_2 reduction target; 7) Implementation of a local action plan to reduce emissions; 8) Calculation of the total CO_2 emissions reductions to date" (Robinson 2000, 86).

In his study of sustainability policy among American cities, Kent Portney develops an inventory of thirty-four policy and planning initiatives that municipalities that "are serious about sustainability" would undertake (Portney 2003, 64). He then evaluates the seriousness of cities' commitment to sustainability by counting the number of these initiatives adopted in each jurisdiction. Portney argues that cities with higher aggregate scores take sustainability more seriously. Similarly, in their study of sustainability policy in the 100 incorporated cities of California's Central Valley, Lubell et al. (2009) create an inventory of fifty sustainability policies and use survey results and archival documents to determine which have been adopted.

Following Portney (2003) and Lubell et al. (2009), Krause created the Municipal Climate-Protection Index (MCPI) as a measure of "the extent of local GHG-reduction efforts" that can be used to compare climate change mitigation policy across large numbers of municipalities (Krause 2011a, 50). She compiled the final list of the twenty-four indicators included in the index through a review of academic literature, local intergovernmental organization publications (US Conference of Mayors' Climate Protection Centre and ICLEI), and consultation with local government employees. She further groups these indicators into three categories: institutionalization component; action component – city operations; action component – broader community. This distinction between types of action components is an important feature of the MCPI that I build upon to measure climate policy here. It reflects the difference between policy aimed at corporate emissions and that aimed at community emissions, an analytically important distinction for purposes of this dissertation.[3]

---

[3] While Krause includes this distinction in the MCPI, she does not incorporate it into her analysis.

Perhaps the most obvious disadvantage of the deductive approach is that the index is usually unweighted, simply measuring adoption rather than impact on GHG emissions. A simple count of the number of initiatives enacted may not be an adequate measure of the impact of individual policies or the city's whole suite of policies. For example a city that enacts a small number of broad, ambitious and highly coercive initiatives may be accomplishing more than a city that enacts many narrow, weak and minimally coercive measures. Moreover, this approach does not capture variation in policy instruments. Often the policies listed are explicitly tied to particular policy instruments – for example, "incentives offered for residents to take public transit (i.e. free days, reduced fares)" (Krause 2011a, 51). This means that if a municipality uses a different policy instrument to achieve the same goal, it does not get credit for it in the inventory system of measurement.

Another approach to measuring public policy in a jurisdiction is to work inductively: to build a list of the policies adopted by each jurisdiction based on data collected by the researcher (e.g., Robinson 2000; Robinson and Gore 2011). Although data is collected in a similar manner to the procedures used for the inventory approach, the difference is that the researcher does not start with a pre-determined set of policies. Instead, a new list is generated for each jurisdiction using surveys or interviews of local government policymakers (Robinson 2000; Robinson and Gore 2005; Krause 2011b; Wang 2013), primary documents or internet searches (Castán Broto and Bulkeley 2013). Comparisons among jurisdictions are thus more complicated than in the inventory approach, but the method allows for a more detailed analysis of policy actions, as well as allowing for the possibility that a jurisdiction has adopted policies that the researcher may not have identified in advance.

Depending on the data collection method used, this approach may limit the investigation to those climate policy initiatives that are explicitly oriented and labeled as such. The researcher and municipal policymakers may not have the same understanding of what "counts" as climate policy – especially if the researcher uses a definition similar to that used here that includes all actions related to greenhouse gas reduction (e.g., Krause 2011a; Aall et al. 2007). If cities and bureaucrats are not consistent about which initiatives they identify as related to climate change, issues of validity will arise and the results will not be comparable across cases. This becomes particularly problematic if data collection is done by survey rather than by interview or document analysis.

Table 1.1 Categories of Municipal Climate Change Policy

Policy Area	Specific Activities
Transportation	Cycling
	Walking
	Transit
	Cars
	Goods movement
	Roads
Procurement	General
	Fleet
Buildings/Planning	Zoning
	Green roofs
	Building standards (e.g., LEED certification)
	Brownfield redevelopment
	Site-specific projects
	Other
Waste	Landfill gas capture
Energy	Electricity conservation
	Electricity generation
	Other
Other	Green business promotion

Here, I combine these two approaches. I begin with the specification of the traditional substantive areas of policy-making that are likely to contribute to greenhouse gas reductions: transportation, buildings and planning, procurement, waste, and energy, as well as a residual category.[4] As shown in Table 1.1, above, I then break down these broad categories into specific activities and issues. Because I am interested in policy areas *and* policy instruments, rather than specifying specific policies for each category as is the common practice for the creation of inventories, I inductively identified policies adopted in each of the eleven Canadian cities with populations of over 500,000 residents using the cities' official websites. Unlike in the traditional inventory method, each category could include multiple specific actions. I then noted whether each policy is designed to address corporate or community emissions, and – for those aimed at community emissions only – I identified the policy instrument selected: voluntary action or information provision; service provision or subsidies; or taxes or regulation.[5] The results are shown in Table 1.2, below.

As expected the initiatives undertaken by the cities differ in number, scope and instrument. In terms of the number of policies adopted, the result of this measurement process has some of the drawbacks of each of the inventory and self-reporting methods – the measures are not weighted and so a minor action in one city is considered to be equal to a wide-ranging and ambitious regulation in another; and because there is no limit to the number of possible initiatives undertaken by the cities, there is no objective standard by which we can judge if a city

---

[4] These activities may also contribute to local governments' climate change adaptation efforts. However, for the purposes of this dissertation I consider only their contributions to climate change *mitigation* efforts in the form of GHG reductions.

[5] By definition, policies aimed at corporate emissions employ internal procedures as a policy instrument.

is doing "well" in terms of enactment of climate change mitigation policy. We can only measure their relative standing.

Table 1.2 Measuring Local Climate Change Mitigation Policy in Canada's Largest Cities

| City | # of Actions | Scope | | Policy Instruments (Community) | | |
		Corporate	Community	Voluntary/ Information	Service Provision/ Subsidy	Tax/ Regulation
Toronto	26	5	21	5	12	3
Vancouver	23	7	16	5	8	3
Montreal	20	8	12	3	7	2
Edmonton	20	5	15	8	6	1
Calgary	20	7	13	7	6	0
Ottawa	17	4	13	6	6	1
Winnipeg	16	4	12	6	5	1
Hamilton	15	5	10	3	6	1
Mississauga	13	4	9	4	4	1
Québec City	10	6	5	1	3	1
Brampton	9	3	6	2	3	1

Data Source: Official websites of the municipalities, accessed May 2011.

However, by examining the content of the policies enacted and categorizing them by scope and policy instrument, the differences in the overall impact of each City's climate policy becomes more apparent. Table 1.2 shows that most large Canadian cities adopt more policy aimed at community emissions than at emissions resulting from their own activities. With a few exceptions, the ratio is at least 2:1. However, voluntary and information provision instruments make up an average of 38% of the cities' policy aimed at community emissions. This is important because these policies are expected to have minimal direct impact on greenhouse gas emissions and while it is suggested that they may have an impact on long-term behavioural change, there is no clear evidence that this is the case (Harrison and Antweiler 2003; Lyon and Maxwell 2007). Moreover, Table 1.2, above, also shows that regulation of greenhouse gases is rare among Canadian cities. All of the cities with only one policy that employs a tax or

regulatory instrument have a formal regulation to limit vehicle engine idling. The City of

Calgary has no such regulation (or any other regulation or tax), and only Toronto, Vancouver

and Montreal have any other type of GHG regulation or tax.

When policies that exclusively employ voluntary or information provision instruments

are omitted (see Table 1.3, below), the gap between the two types of policy narrows substantially

and the ordering of the municipalities changes slightly. The best- and worst-performing cities

maintain their rankings, Calgary falls down the list and Hamilton emerges as more successful

than it originally appeared.

Table 1.3 Non-Voluntary Municipal Climate Policy Aimed at Community Emissions

| City | # of Actions[a] | Policy Instrument (Coerciveness) | |
		Service Provision/ Subsidy	Tax/ Regulation
Toronto	16	12	3
Vancouver	11	8	3
Montreal	9	7	2
Edmonton	7	6	1
Ottawa	7	6	1
Hamilton	7	6	1
Winnipeg	6	5	1
Calgary	6	6	0
Mississauga	5	4	1
Québec City	4	3	1
Brampton	4	3	1

[a] This number was calculated for each municipality from data in Table 1.2, above, by subtracting the number of policies that employ a voluntary or informational instrument from the number of policies aimed at community emissions.

1.2   Literature Review

The analysis of the variation in climate change policy established above is grounded in

existing work on local climate change policy and urban politics. A review of literature from these

two fields is presented below. I further draw on literature from the study of the politics of public

policy to construct specific hypotheses to explain the variation. This literature is explored in that context in Chapter 2.

1.2.1   Local Climate Change Literature

The local climate change literature has its roots in studies of global governance. Scholars tend to come to study the local level because of disillusionment with the prospects of agreement and action on effective greenhouse gas reductions in the national and international arenas. This is a solution-focused field of study centred on describing and prescribing the role of cities in the fight against global climate change, particularly in the context of multi-level governance as conceived by Hooghe and Marks (2001). Authors such as Bulkeley and Betsill (2013) note the increasing role of cities in global discussions of climate change: "Far from being a little known concern amongst a minority of municipalities, the city now looms large on the international climate change agenda" (Bulkeley and Betsill 2013, 136).

This globally-focused approach originated in the 1990s and early 2000s as climate change policy was just coming to the attention of governments at all levels. Environmental protection gained prominence in the 1970s, and as knowledge of climate change grew, cities around the world came under increasing pressure to respond. Since the late 1980s when the City of Toronto hosted the first global climate conference,[6] we have seen the development of local climate policy of various types and to various degrees. Bulkeley and Betsill (2003) emphasized the catalytic role of Local Agenda 21 – part of the United Nations Framework Convention on Climate Change (UNFCCC) agreement of 1992 – in sparking interest in local sustainable

---

[6] The World Conference on the Changing Atmosphere was held in June 1988.

development by urban governments and NGOs, and argued that cities have the potential to be major contributors to GHG reductions.

Writing a decade later, these authors argue that there were two stages in the development of the local role in addressing climate change (Bulkeley and Betsill 2013). First, there was a period of "municipal volunteerism" (Bulkeley 2013) beginning in the late 1990s in which pioneers – mostly small and medium-sized cities in North America and Europe – began to make efforts to reduce greenhouse gas emissions by joining intergovernmental networks, encouraging voluntary actions by citizens and business, and reframing climate change as a local issue due to its effect on air pollution and other issues more commonly associated with municipal jurisdiction. While this is still a common approach, Bulkeley and Betsill argue that beginning in the early 2000s, a second period of "strategic urbanism" emerged in which local leaders began to take a more "overtly political approach" (Bulkeley and Betsill 2013, 140) which involved explicit lobbying of other municipalities and politicians at other levels of government.

As is common in analyses of global politics, emphasis has been placed on formal plans and agreements: Have cities set emission reduction targets? Have they adopted action plans? Why do they join intergovernmental networks? For example, Lee (2015) explores "why some cities choose to participate in transnational climate networks, under what conditions cities cooperate in an international manner, and which factors influence climate policy performance" (Lee 2015, 2). However, there has also been a push within this literature to focus on the "governance" part of "multilevel governance", emphasizing the potential of networks and governing arrangements that do not centre on formal governments (e.g., Bulkeley and Betsill 2013; Castán Broto and Bulkeley 2013).

Perhaps because of its global focus, much of the literature described above does not use a domestic politics framework to explain policy efforts at the local level. Despite potentially useful areas of convergence, concepts frequently referenced in explanations of local climate change mitigation, such as "co-benefits" (e.g., Betsill 2001), are rarely discussed in concert with those developed in the comparative politics literature such as electoral interests (e.g., Mayhew 1974), interest group organization (e.g., Olson 1965; Wilson 1980) or veto players (e.g., Tsebelis 1995). Moreover, although some authors explicitly acknowledge the barriers facing city governments (e.g., Robinson and Gore 2005), this is not the central thrust of most analyses. This literature tends to be optimistic about the precedents set by early adopters and the theoretical and technical possibilities and opportunities for local climate change policy (e.g., Fitzgerald 2010).

Despite this optimism, there are a number of reasons to be skeptical of the potential for municipalities to make substantial contributions to global greenhouse gas emission reductions. Much of the local climate change literature makes a number of assumptions that are not fully substantiated: a) climate change action by cities can either replace or go a long way towards replacing GHG reductions by national governments and the international community; b) cities have sufficient authority and incentives to take action in the absence of support from other levels of government; c) plans and GHG reduction targets developed by cities are good indicators of actual GHG reductions; and d) intergovernmental networks of cities lead to meaningful diffusion in terms of policy to reduce GHGs.

However, these assumptions may not hold. It is also possible that local action to reduce greenhouse gas emissions might not be useful from a global perspective or may even be detrimental. Some suggest that local governments are too small to be efficient actors, while others point to the often symbolic nature of municipal action (Aall et al. 2007), and still others

point out that leakage – "the movement of emission-generating activities from regulated areas to unregulated ones" (Krause 2011a, 48) – may prevent actions from having any effect on global emissions levels, or may even lead to increases in global emissions (Weiner 2007; Adelman and Engel 2008).

In addition to the above literature that tends to feature single case studies or discussions of the theoretical implications of climate policy, there is a growing body of scholarship employing quantitative multivariate analysis on the subject of local climate change policy. This literature, mostly written in the US context, emphasizes causal explanations of local climate policy.[7] Such studies have examined the determinants of municipal participation in intergovernmental climate change networks (e.g., Zahran et al. 2008; Sharp et al. 2011; Lee 2015; Gore 2010), institutional factors that influence climate policy adoption and implementation (e.g., Lubell et al. 2009; Ramirez de la Cruz 2009), and citizen involvement (e.g., Portney and Berry 2010; Wang et al. 2012).

With a few notable exceptions (e.g., Krause 2011a), most of these studies have not distinguished between policies that are likely to substantially reduce greenhouse gas emissions and those that are more symbolic. For example, Lee's (2015) objective is to explain not only why some cities join networks such as ICLEI or C40 Cities, but also the impact of joining such organizations on climate change mitigation policy. However, his analysis measures policy output using "self-reported mitigation policy process information" (Lee 2015, 199). This means that each city reports how far it has come along a five-step path from creating a GHG emission inventory, establishing reduction targets, creating an action plan, implementing policies, and

---

[7] But see Robinson and Gore (2005) on Canada; Tvinnereim and Dolšak (2013) on Europe.

monitoring outcomes. As a result, a city with a score of three out of five has not actually

implemented any climate change mitigation policy at all. Moreover, this measure does not take

into account the content of climate change mitigation policies or their likely impact on GHG

emissions. Lee's (2015) use of a dependent variable operationalized as a step-by-step process of

this type is common in the local climate change policy literature, but this approach sidesteps

critical analysis of whether these policies will reliably lead to greenhouse gas reductions.[8] One

contribution of this dissertation is the explicit consideration of whether climate change policies

are likely to lead to significant greenhouse gas emission reductions.

This dissertation also builds on the work of scholars of subnational climate policy in

Canada and the United States (e.g., Rabe 2004, 2011; Rabe and Borick 2012; Harrison 2012,

2013; Houle et al. 2015). These authors have shown that even in the absence of nation-wide

policy, Canadian provinces and US states have begun to create policy to address climate change

at a smaller scale – especially in the realm of market-based instruments such as carbon taxes and

cap-and-trade systems. Many are optimistic about the potential for climate action at this level,

and hope that subnational policy innovation will eventually lead to the creation of national-level

climate policy (e.g., Stewart 2008; DeShazo and Freeman 2007; Wiener 2007; Lutsey and

Sperling 2008; Engel 2006).

Harrison (2013) sounds a note of caution in this optimism. While she notes that US states

and Canadian provinces have adopted innovative subnational climate policy initiatives, she calls

"for more guarded enthusiasm concerning the scope and impact of subnational climate policy"

---

[8] This step-by-step model of local climate change mitigation policy was popularized by the ICLEI Cities for Climate Protection (CCP) program. In Canada this program is administered by the Federation for Canadian Municipalities (FCM) and is known as the Partners for Climate Protection (PCP) program.

(Harrison 2013, S96). Despite the innovation, collaborative efforts among subnational jurisdictions such as the Western Climate Initiative have begun to weaken, the leaders tend to be the cleanest states and provinces, and those jurisdictions with GHG-intensive economies have been not only laggards, but also obstructionists.

As is the case for municipal governments, many of the climate policies adopted by US states and Canadian provinces do not explicitly mention their climate benefits. Harrison (2013) suggests that while it is possible that this is because subnational governments are adopting climate policy "by stealth" it is more likely that these policies are adopted for reasons other than climate change (Harrison 2013, S101). This claim is consistent with Rabe and Borick's (2012) finding that many US states and Canadian provinces have adopted functional carbon taxes that are not labeled as such and are not necessarily intended as such.

1.2.2   Urban Politics Literature

In addition to the climate policy-focused literature above, this dissertation is firmly grounded in studies of local government and urban politics. Scholars of urban politics and local government have both examined the sources of power and decision-making at the local level, and provided detailed historical accounts of the institutional framework of municipal governments and the evolution of their responsibilities. These themes come together in discussions of the autonomy of local governments relative to central governments, including Canadian provincial governments. North American municipalities have not always acted to protect the environment, in part due to the jurisdiction granted to them by central governments.[9]

---

[9] The specifics of the evolution of municipal responsibility are discussed below. This dissertation examines local government decision-making with regard to GHG emissions reductions because of its importance in terms of avoiding global climate change. Generalizing the findings to other areas of municipal policymaking is a secondary

This section begins with a discussion of the American urban politics tradition, from the community power debate, through public choice approaches and growth machine and urban regime theories. This is followed by an exploration of local autonomy – both municipalities relative to other governments, and municipal bureaucracies and bureaucrats relative to their elected counterparts. I conclude the section with a historical account of the institutions and responsibilities of Canadian municipal governments.

1.2.2.1   From Community Power to Urban Regimes

The American urban politics tradition began in the mid-20th century with the community power debate, pitting elite theorists (e.g. Hunter 1954; Bachrach and Baratz 1962) against pluralists (e.g. Dahl 1961; Polsby 1980).[10] These approaches share two common assumptions: local factors are the most important influences on local political outcomes, and local politics serves as a microcosm of national politics (Harding 2009, 31-32).

Hunter's original application of elite theory to the urban arena was controversial. Using a methodological technique that became known as reputational analysis, he showed that power in the city was concentrated in the hands of a select group of business executives (Harding 1995, 38-39). Pluralists responded to what they saw as faulty methodology and Hunter's failure to demonstrate that these elites *exercised* the power they supposedly held (Harding 1995, 39-40). They "rejected [Hunter's] highly stratified view of the power structure" (Judge 1995, 15). Pluralists argued that elected officials were still important to decision-making and that democracy still mattered. More specifically, they argued that power was dispersed, unequally,

---

objective of the project. The main goal is to understand the role of municipalities in mitigating global climate change.

[10] For a comprehensive review of these debates, see Harding (1995, 2009) and Judge (1995).

among a multitude of interest groups all of which sought influence over elected officials (Judge 1995, 15). In response to this challenge, neo-elite scholars such as Bachrach and Baratz (1962, 1970) argued that the identity of decision-makers was much less important than the pluralists suggested. Rather, the more relevant source of power was in the realm of "non-decisions" – the issues that never make it to the official agenda. They argued that elites control the political agenda and only allow those issues that are "comparatively innocuous to them to ever reach the point of decision" (Harding 1995, 40).

This claim was in turn challenged by scholars (mainly from the Marxist tradition) who argued that if Bachrach and Baratz's theory of non-decisions could be called the "second face of power", there is a "third face of power" in which individuals and groups can be led to believe that their interests are in line with those of the dominant group (Lukes 1974; Gaventa 1980). More broadly, beginning in the early 1970s the community power debate was challenged by Marxist analyses (e.g. Castells 1978; Harvey 1989; Lefebvre 1991) which sought to replace the methodologically individualist perspective with accounts that emphasize the structural power of the capitalist system within which local governments and societies are embedded (Judge et al. 1995, 6).

The work of neo-pluralists such as Lindblom (1977, 1982) incorporates some of the critiques arising from Marxist scholars, but retains the focus on individual agency (Harding 2009). Lindblom argues that the business community has structural and instrumental power within the city and can influence public policy decisions even without making explicit demands. Structural power results because business, rather than local government, is the main provider of welfare: jobs, income, standard of living. Public officials who make decisions that favour business interests, therefore, do "not have to be bribed duped or pressured to do so. Nor [do they]

have to be…uncritical admirer[s] of businessmen" (Lindblom 1977, 175). Instrumental power comes in the form of the power of organized business lobby groups. These groups are likely to be successful because they have more resources than most groups, and because their arguments are – for the reasons outlined above – more likely to be elicited and carefully considered than those of other interest groups.

Public choice theories (e.g. Tiebout 1956; Peterson 1981) also reprise the community power debate's methodological individualism but, like Marxian analyses emphasize the relationship between politics and the economic system. They suggest that political outcomes are themselves the result of market mechanisms. Individuals are assumed to be self-interested utility-maximizers who "shop" for services among local governments and their agencies (Keating 1995, 123). This literature is at the centre of debates about the appropriate size of local governments. Public choice theorists argue for both territorial and functional fragmentation – having many smaller governments and agencies rather than larger consolidated units – for reasons of efficiency and utility (Keating 1995, 125-126).

Paul Peterson's *City Limits* (1981) controversial public choice account of local politics (Harding 2009) assumes an urban context in which municipalities compete with each other for highly mobile voters and businesses. In this setting, he argues, local politicians "know that, unless the economic well-being of the community can be maintained, local business will suffer, workers will lose employment opportunities, cultural life will decline and city land values will fall" (Peterson 1981, 29). As a result, he suggests, economic growth is the central concern of local governments with the consequence that to protect their interests, local governments will adopt 'developmental' rather than 'redistributive' policy because only these "can plausibly be shown to be conducive to the community's economic prosperity" (Peterson 1981, 30).

Harding (2009) argues that *City Limits* created "a very specific, contemporary intellectual 'enemy'" (Harding 2009, 33) for scholars who disagreed with Peterson's analysis. This, combined with the emergence of neo-pluralist perspectives, inspired a new American urban political economy literature. Harding (2009) argues that while both the growth coalition/growth machine thesis (Molotch 1976; Logan and Molotch 1987) and urban regime theory (Elkin 1987; Stone 1989) were catalyzed by Paul Peterson's (1981) public choice-influenced contribution to urban political analysis, scholars in these traditions did not object to his claims about the nature of inter-local competition, the importance of the promotion of local economic growth, or inequality between and within municipalities. Rather, he argues, later scholars saw the cause of local policy decisions as the result of "struggles and bargains between different groups and interests within cities" (Harding 2009, 35) and that rather than serving an overall city-wide interest, the end result rewards some and disadvantages others.

The urban growth machine/growth coalition thesis (e.g., Molotch 1976; Logan and Molotch 1987), alternately described as deriving from Marxist analysis (Sapotichne et al. 2007) and elite theory (Harding 2009), is most applicable to local policy regarding land-use and zoning. Proponents of the theory argue that business activists – real estate developers, supported by other private sector interests – dominate decisions about land-use and intensification, although such coalitions can be challenged by anti-growth or selective growth movements (Harding 2009).

The idea of dominant coalitions of actors recurs in the urban regime literature. Regime theory (e.g., Fainstein and Fainstein 1983; Elkin 1987; Stone 1989) has been described as the dominant strain of work in urban politics since the late 1980s (e.g. Mossberger 2009; Sapotichne et al. 2007). There are several variations of the theory, but all are centred on "formal and informal modes of collaboration between public and private sectors, [and] argu[e] that

fragmentation of power between a market economy and popularly elected political institutions makes such cooperation necessary in order to realise important local policy goals" (Mossberger 2009, 40). Much of the work using the urban regime theory framework has focused on creating typologies and identifying regimes in cities outside Clarence Stone's (1989) original case of Atlanta, GA. However, evidence of regimes outside of the United States is mixed. Some have sought to identify Canadian urban regimes (e.g., Cobban 2003; Leo 2003), although Sancton (2011) argues that regime theory is not applicable in Canada. Likewise, in the European context Sellers (2002) finds some evidence of regimes across eleven cities in Western Europe, in Leeds and Lille John and Cole (1998) find public-private partnerships but not fully formed regimes, and Harding (1994) suggests that the role of the regime theory in the UK context is to highlight the presence of informal networks. Similarly, Mossberger (2009) argues that the inapplicability of urban regime theory to contexts outside of the United States led to the development in the UK and Europe of a broader theory of local networks: governance theory. As discussed above, much of the work on local climate change policy has been based on governance theory.

Governance theory emphasizes the study of networks and public-private partnerships. Pierre and Peters (2005) argue that urban governance theory shows the blurring of public-private boundaries, the increasing number of governance networks and the greater inclusion of actors outside the local state. Kjaer (2009) argues that this approach helps to analyse efficiency, synergy, inclusion, and empowerment at the local level, but it is weak with regard to power, conflict and interests. Studies of governance tend to adopt "an implicit assumption that participation and inclusion will overcome the fact that the ability of civil society groups or individuals to promote their interests may vary. Participation is thus, in a sense, assumed to automatically create consensus" (Kjaer 2009, 141-142). This is a stark contrast to the traditional

23

American approaches to urban politics. However, both Kjaer (2009) and Mossberger (2009) note that there are many potential similarities between governance approaches and regime theory that might be usefully exploited.[11] In the Canadian context, Young (2012) likewise takes a broader view of the study of "governance". In the context of his analysis and that of the other contributors to his edited volume (Horak and Yong 2012), the term "governance [is used to refer] to the involvement of non-governmental actors in the policy process, which is a longstanding phenomenon" (Young 2012, 6) and includes business influence through, for example, urban regimes. Moreover, he argues, "[g]overnance implies that governments are acting within networks of social forces – organized interests of many different kinds, active at different levels" (Young 2012, 6).

1.2.2.2 Local Autonomy

Another common theme of urban politics literature is the autonomy of local governments. As noted above, one of the contributions of Marxist analyses to the study of urban politics has been the emphasis on the embeddedness of municipalities in broader institutional and economic contexts. This has led to further exploration of the concept of local autonomy: to what extent can local governments make decisions independently of central governments or other actors? Gurr and King (1987) argue that cities are constrained both by economic and social factors, and by political, legal and administrative factors. These two dimensions of autonomy have been explored by a range of authors. For example, Wolman and Goldstein (1992) suggest most cities have little scope for independent action due to their subordinate constitutional status, and

---

[11] There are also some parallels between the emphasis on decentralization and cooperation in the governance approach and theories of federalism that emphasize task-specific jurisdictions (e.g., Ostrom 1973; Hooghe and Marks 2003).

literature from the American urban political economy tradition has tended to focus on cities'

limited ability to address issues outside of local economic development because of the explicit

and implicit influence of business and industry (Peterson 1981; Stone 1989) – particularly real

estate developers (Molotch 1976).

Within the municipal government itself, we can speak of the autonomy or independence

of staff relative to elected politicians. Principal-agent theories (e.g. Moe 1984; Weingast 1984)

and other conceptions of bureaucratic autonomy (e.g. Carpenter 2001) are common at the

national level, but there is also a long tradition of bureaucratic autonomy in urban politics. Urban

reformists in the early 20th century believed in bureaucratic autonomy as a normative goal – as a

way to counter the power of machine politics and corruption that characterized much of 19th

century city governance in North America (Clingermayer and Feiock 2001). Through the

manipulation of formal and informal institutions, they set out to achieve these goals by both

empowering bureaucrats and decreasing the influence of politicians. They changed electoral

rules, the size and make up of councils, the power of standing committees, encouraged the

professionalization of bureaucrats and created powerful new bureaucratic positions such as the

chief administrative officer (CAO).

Despite recent trends towards increased public participation in municipal decision-

making (see below), some argue that the administration is still fairly independent relative to their

political "masters". For example, Lightbody argues that the public service in Canada "is far more

than a neutral arbiter in a pluralist fight for public policy results….[and] public officials in

Canadian cities are neither policy eunuchs nor mindless robots" (Lightbody 2006, 280). For

example, for each issue, these staff provide politicians with a "single preferred policy option"

(Lightbody 2006, 279). Unlike at other levels of government where public servants provide

politicians with a range of policy options, at the municipal level briefing notes tend to specify a single recommendation. This means that politicians' choices are limited to accepting or rejecting the recommendation.

In line with principal-agent models, bureaucratic independence at the municipal level has been argued to be the result of local administrators' control of information. For example, following Higgins (1986), James Lightbody argues that "power is rooted in expertise and control over information flow, especially where pressure on councillors' time means they can be overwhelmed by detail" (Lightbody 2006, 148). City councils, he says, "defer to the city manager in the normal course of selecting options and tend to avoid responding to public demands" (Lightbody 2006, 148). Justice Bellamy provides an example in her report for the Toronto Computer Leasing Inquiry:

> [Toronto City] Council meeting agendas are hopelessly overloaded. The pile of reading for every meeting can be measured in reams of paper, not pages…. The volume is simply unworkable at any acceptable level of diligence and attention to detail. No councillor could find time to read such a mountain of paper, let alone absorb all the detail in it. (Bellamy 2005b, 16)

1.2.3   A History of Canadian Municipalities

Students of Canadian local government have provided detailed accounts of municipal institutions. These scholars have made important contributions to our understanding of how the history of local politics affects the current responsibilities and jurisdiction of municipal governments. Scholars have argued that city governments serve two purposes (e.g., Tindal and Tindal 2004; Graham, Phillips and Maslove 1998; Nicol 1997; Andrew 1995; Isin 1995). First, as the level of government closest to the people, municipal councils function as democratic

assemblies charged with the political representation of residents. Second, city officials are administrators tasked with implementing provincial policy and ensuring the smooth running of daily life within their boundaries. This duality has existed since the early days of municipal incorporation in the early 19th century, but the historical and political contexts have shaped the balance of these responsibilities over time.

Saint John, New Brunswick was Canada's first incorporated municipality in 1785, but the first successful push for the incorporation of what would become Canada's major cities began in the 19th century (Isin 1995).[12] These early municipal corporations had elected councils, but there were high property qualifications for electors, and even higher qualifications for officeholders. Local governments were seen by the colonial leaders, such as Lord Durham whose 1839 report was very influential in the later reforms, as ways of diffusing power so as to protect "against popular resistance and rebellion" (Isin 1995, 77). Importantly, this diffusion of power was to local elites – not the mass public. They were representative, but representative of the propertied class: local governments were elected by the propertied class and were financed by taxes on their property.

Although Canada and its local governments have changed substantially since the 19th century, Isin argues that "Canadian municipal government [was and] is…a corporation created by each province for the purposes of local government. Municipal government refers to the governing body of the corporation – the council – and its administrative machinery" (Isin 1995, 53). Early Canadian cities had the veneer of democracy, but were under the strict control of the

---

[12] Quebec City and Montreal (1832), Toronto (1834), Halifax (1841), Kingston and Hamilton (1846), Winnipeg (1873).

provincial government. There was democratic control by the electors, but only within the limits prescribed by the province.

Other scholars argue, however, that in terms of local autonomy, "the late 19th century was the golden age of urban politics in Canada" (Nicol 1997, 18-19). Municipal governments were heavily involved in economic development, land development, and were the "most active level of government in health and social welfare" Nicol 1997, 19). By 1907 the budgets of large cities exceeded those of their respective provinces, and cumulative municipal debt was larger than cumulative provincial debt. Cities were also part of a larger nation-building project in which they marketed themselves as social and economic centres of a cohesive state. For example, Winnipeg positioned itself as "the 'gateway' of the Canadian prairies, where the nation's 'adventurous sons' would flock 'for a grand purpose.' It was the 'chosen City' of the west, and the Chicago of Canada" (Nichol 1997, 23).

According to Tindal and Tindal (2004), in this period Canadian cities and urban activists followed the American trend away from the partisan character of local politics and towards an "a-political" model of municipal governance. The "urban reform" movement was in part a response to corruption among local government officials (although this was more of a problem in the United States than in Canada), and in part a mechanism for business and middle class elites to serve their own interests and enhance their influence. Plunkett and Betts argue that reforms were *intended* to restrict "the influence of the cities' burgeoning population of working people on the conduct of municipal affairs" (Plunkett and Betts 1978, 27). These explanations are consistent with the elitism of the initial establishment of municipal corporations earlier in the 19th century.

In this model, city legislators were elected as independent members and were seen as technocratic managers. The local government's main responsibility was for administration rather than democratic representation or strategic decision-making relating to policy choices. In the reformist paradigm, cities were tasked with the relatively mundane, daily responsibilities of building and maintaining roadways, managing waste, providing fire protection services, etc. Cities raised money through property taxes, fees-for-service, and as time went on, transfers from provincial governments. Local elected officials' primary goal, as managers, was the efficient use of funds. Consistent with the interests of those most in favour of the reform project, the only non-managerial function of city governments was to ensure economic growth, often by facilitating land development. In Canada, the result of the reform movement was a "more complex, less accountable municipal government, more responsible to economy and efficiency than to the voters" (Tindal and Tindal 2004, 59).

To this day, the responsibilities of municipalities are limited by the dictates of provincial governments. In the United States, the responsibilities of cities vary (in theory) whether they are subject to Home Rule or Dillon's Rule. Home rule municipalities are permitted to do anything that is not *prohibited* by state law, where as those subject to Dillon's rule are only permitted to take actions where state law specifically permits it (Wolman and Goldsmith 1992). In Canada, legal doctrine has more closely approximated Dillon's Rule than Home Rule, although this has been shifting and more recent municipal legislation at the provincial level has begun to provide more legal autonomy to municipalities (Tindal and Tindal 2004). Young argues that this increase in legal autonomy has meant that cities are now able to take on a broader policy role, and some are now adopting "a 'comprehensive' orientation [to policy], as opposed to a 'minimalist' stance that favours straightforwardly delivering traditional services" (Young 2012, 7).

While some writing in the Canadian context suggest that local governments have been testing the boundaries of their autonomy (Baker and Mosonyi 2015), both formal and de facto municipal autonomy is greatly limited by provincial and federal governments. This is frequently expressed in the phrase "municipalities are creatures of the provinces" (e.g., Sancton 2009). In their recent index of Canadian local autonomy, Smith and Spicer (2015) find that despite variation across provinces, Canada's largest municipalities can be described as having a "medium" level of autonomy at best.

These limitations to municipal autonomy apply both to the types of problems that local governments are empowered to address, and to the policy solutions that they have available to them. In most cases issues considered to be within the jurisdiction of local governments are more specific and concrete than those routinely addressed by provincial and federal governments. For example, in the area of transportation policy, provincial governments oversee broad aspects of policy such as the traffic code and the rules of driver licensing and vehicle permitting, and the federal government regulates environmental impacts such as vehicle emissions.[13] In contrast, city governments have the more mundane tasks of the day to day maintenance of roads, the timing of traffic signals, and the enforcement of minor violations. Likewise in the area of immigration policy the federal government makes determinations about who to admit, but immigrants largely settle in Canada's urban centres which leaves local governments responsible for facilitating their integration (Good 2009). It has been suggested that municipal governments' task is to find "the right local mix of provincial policies, not autonomous decision-making" (Andrew 1995, 148).

---

[13] The federal government has jurisdiction here because motor vehicles are sold through interprovincial commerce.

Provincial governments also limit the choices of policy instruments available to city governments. Despite recent changes, because Canadian cities have had little authority to take action not explicitly mandated by provincial governments, they tend to rely heavily on service provision rather than regulatory authority – with the important exception of land-use planning and zoning. Regulation in areas other than land-use planning and zoning, while occasionally permitted by provincial governments, is employed much less frequently than at the provincial or federal level, both due to the constitutional limits of municipal autonomy and historical practice.

Furthermore, despite the democratic election of local politicians, Isin (1992) argues that due to municipalities' lack of constitutional recognition as a separate order of government, the authority of local governments is derived from the provincial government rather than the consent of local citizens. Thus, even if citizens would prefer for their local politicians to address more universal issues, such as climate change, or to impose mandatory regulations on the private sector this is not always possible due to provincially-mandated constraints. This limits the capacity of local governments to address issues – including climate change – that have a less immediate impact on the municipality's specific residents and territory.

Provincial governments also contribute to the financial resources available to municipal governments. They both limit municipalities in the ways in which they can independently raise revenue and provide conditional and unconditional transfer payments. Conditional funding transfers were common after the Second World War, but in the 1990s these were largely replaced by unconditional transfers, often in smaller amounts (Tindal and Tindal 2004). However, outside of Ontario, contemporary municipal governments do not rely heavily on transfers from provincial and federal governments. Of revenue generated in 2008 by Canadian municipal governments, transfers from provincial and federal governments made up about 20% of the total

(Sancton 2011, 269). Moreover, 70% of the over \$12 billion in conditional transfers provinces to municipalities was in Ontario, the only province in which municipalities have responsibility for the provision of social services, housing and health (Sancton 2011, 270-271).[14] Provinces also continue to restrict the sources from which municipalities may raise additional funds to property taxes and fees-for-service (including development charges for new construction). Further, while Canadian cities are permitted to borrow a limited amount of money against capital expenditures, this is not permitted for ongoing operational expenses once the infrastructure has been built (Bird and Slack 1993; Sancton 2011).

In response to arguments of limited municipal authority and provincial control, some argue that "provincial governments are senior partners but their domination is neither complete nor constant" (Andrew 1995, 137). Furthermore, increasing globalization has led to greater prominence of Canadian cities on the global stage. Social movements such as women's rights and environmental protection have linked cities to international networks (Andrew 1995, 150). This can be seen in the area of climate change mitigation through Canadian cities' participation in networks such as the ICLEI Cities for Climate Protection program,[15] and C40 Cities Climate Leadership Group which was chaired by Toronto Mayor David Miller from 2008 to 2010 (C40 Cities 2016).

This assessment is consistent with earlier trends in public participation that arose in the 1960s and 1970s. At that time citizens began to object to municipal plans and decisions in issue areas that had previously been politically uncontroversial, including transportation and urban

---

[14] Quebec municipalities also have some responsibility for financing housing.
[15] In Canada this program is administered and managed by the Federation of Canadian Municipalities, and is called Partners for Climate Protection (PCP) (FCM 2015c).

planning. Leo (1977) argues that local governments' managerial orientation had led to an atrophying of the representative function of municipal government and the inability of local politicians to respond to what were, in effect, questions of democratic contestation. Second, provincial governments began to download more responsibility to local governments – often without commensurate funding transfers (Sancton 1994b; Tindal and Tindal 2004). While implementing such provincial programs is still administrative in nature, unlike sewer or road repair that are provided and funded universally, as components of Canada's liberal welfare state these social services are only provided to select citizens based on their demonstration of need (Esping-Andersen 1990). One of the best known maxims of the urban reform movement was that "there is no political way to pave a road" (Sancton 2011, 175), but it has become increasingly obvious that this is not the case. As McAllister argues, although there might be only one way to pave a road or fill a pothole, "whether potholes should be filled first or whether improved streetlight service in a dangerous neighbourhood should take priority is itself a value question and is unavoidably a political decision" (McAllister 2004, 201). Service provision is also a political struggle about the distribution of resources.

1.2.3.1 Canadian Municipal Institutions

As urban areas grew over the course of the 20th century, there was an increasing mismatch between central city boundaries and population distribution. In the United States central cities are often surrounded by a very large number of independent suburban municipalities (Oliver 2006). This is consistent with a public choice perspective which promotes the ability of residents to register their discontent with their municipal government by "voting with their feet" (Tiebout 1956). In Canada, however, cities came under increasing pressure from provincial governments to centralize services and governance. This has led to both the formation

33

of either two-tier (or regional) governments and the amalgamation of central cities and their suburbs into single jurisdictions with a centralized local government. Municipal governments share authority (and have overlapping authority to varying degrees) with upper-level or regional governments and special purpose bodies. Specific institutions vary greatly across cities: as Sancton argues, "complexity is endemic to local governments" (Sancton 2011, 41).

The continual restructuring of local government over the course of the 20th century illustrates the control of provincial governments over all types of local government. In the 1980s only three Canadian cities were not part of two-tier systems in which both the constituent municipalities and their upper tier governments had legal authority – often in different policy areas. The specific institutional arrangements and responsibilities of upper- and lower-tier governments vary across the country, both within and across provinces. Members of upper-tier councils can be directly elected by citizens or may be councillors of the lower-tier governments for whom sitting on the regional council is an added responsibility. Representation of the constituent municipalities on regional councils is a point of considerable controversy. According to Andrew (1995), this regional government model "strengthen[ed] the efficiency and effectiveness of urban services, but [did] not…strengthen the democratic character of local government or increase the channels of participation by the local population" (Andrew 1995, 146), as such governments became more insulated from the population.

In the 1990s, this trend began to reverse and many major urban regions including Toronto, Montreal, Ottawa, and Halifax were amalgamated (often against the wishes of the local populations and politicians). In the 1990s, "in Ontario alone, almost 400 municipalities (or 45% of them) disappeared as a result of amalgamations" (Tindal and Tindal 2004, 21). Single-tier local governments, including amalgamated governments assume all of the responsibilities of

both tiers of government. These many changes have led to the development of a wide variety of types of single- and multi-tier governments in Canada (Sancton 1994a).

The local governance arena is further complicated by the existence of special purpose bodies. Such organizations have varied jurisdiction, autonomy and authority. Some are completely autonomous from municipal governments, others are partially controlled by municipal governments, and still others involve collaboration among multiple municipal governments.[16] Special purpose bodies include school boards, police boards, library boards, transit systems, port authorities, utilities, conservation authorities, and regional health authorities. Officials of special purpose bodies may be elected or appointed. Some, such as school boards, may have independent revenue generating capacity, while others are entirely dependent on funding from provincial or municipal governments.

Within each municipality, the City Council is the legislative branch. Sancton argues that there are two common models of city council: the "parliamentary" model, and the "reformed" or "Council-Manager" model (Sancton 2011, 183). The parliamentary model is common in Britain and Europe and features large councils where members are elected using a ward system, party politics, and a strong committee system. The reformed model is more common in the United States and features small councils elected at-large, no political parties, and no committees. Canadian municipalities tend to have systems that combine features of each model. The typical

---

[16] Unless otherwise noted, for the remainder of the dissertation "municipal government" refers to lower- and single-tier municipalities exclusively.

Canadian city council is non-partisan, has seven to twenty-five members who are elected using a

ward system, and legislative committees.[17]

Canadian municipal elections follow a fixed schedule set by the provincial government.

In most cases terms last four years.[18] There are rarely elections held outside of this schedule as

there is no municipal equivalent of a parliamentary vote of no confidence, and replacements for

officials who die or resign are generally appointed rather than selected in a by-election. The

mayor is elected at-large by the entire population of the municipality, but in most cases

councillors are elected in a ward system. Wards are usually single member districts in which the

winning candidate receives a plurality of the vote, similar to the single member plurality

electoral system used in Canadian provincial and federal elections. In most cases each ward

contains a similar number of residents, but sometimes boundaries are shifted to increase

representation of rural citizens. British Columbia municipalities use a block voting system in

which both the mayor and councillors are elected at-large. The municipality is not divided into

geographic constituencies and all citizens may vote for as many candidates as there are positions

on council. The candidates that receive the most votes are selected.

Local political parties – called civic associations – are provided for in municipal statutes

only in British Columbia and Quebec. Sancton (2011) argues that "more so than perhaps in any

other democratic country, Canadian municipal politics is generally not influenced by national [or

provincial] political parties" (Sancton 2011, 174). For the most part local politicians claim

independence from political parties and claim, instead, to act on "sound business principles"

[17] Two exceptions are Toronto and Vancouver. Toronto has a large council (45 members), and Vancouver's
councillors are members of local political parties and are elected at-large.
[18] Terms are three years in Alberta, British Columbia, Prince Edward Island, and Saskatchewan. In rural
Saskatchewan elections take place every two years.

(Sancton 2011, 176). They perpetuate, perhaps unintentionally, the philosophy of the early urban reform movement discussed above.

Voter turnout for municipal elections is very low. Although very controversial scenarios have resulted in turnout of over 50%, more commonly the figure is between 30% and 40% (Sancton 2011, 193). Except when there has been a scandal, this tends to give incumbents a large advantage as they will have more name-recognition than their challengers. This encourages the phenomenon of the career municipal politician. Mississauga Mayor Hazel McCallion, who held that office from 1978 to 2014, is an extreme example. Multiple councillors in Brampton have held seats on the city council for over twenty-five years.

While most municipal election campaigns are relatively simple, involving media spots, brochures, and lawn signs, some politicians use relatively sophisticated techniques including public opinion polling (Sancton 2011, 195). Not many election financing rules exist. British Columbia, Manitoba, Newfoundland and Labrador, Ontario, and Quebec all require some form of disclosure of campaign contributions; the latter four provinces have contribution limits; British Columbia has rules about but not limits on contributions and expenses; and, only Ontario and Quebec have spending limits (Sancton 2011, 195; British Columbia 2010, 2).

In Canadian cities with political parties, mayors are often elected with a slate of their co-partisans. This gives them a ready-made coalition and can make passing policies and by-laws relatively easy. In other cities the mayor must build coalitions with councillors on an *ad hoc* basis. Canadian mayors have the power to preside over council meetings and have a role in determining council agendas. However, presiding over meetings can actually weaken the mayor's power because they cannot speak on issues as the meeting chair. Thus, in some cities –

e.g. Toronto, Montreal, and Winnipeg – another councillor is chosen to be the permanent "speaker" to allow the mayor more freedom to speak to issues (Sancton 2011, 221).

Many American cities have what has been termed a "strong mayor" system that is based on the presidential model (Mouritzen and Svara 2002). In such a system the mayor is the chief executive who controls the operation of the bureaucracy and usually personally appoints the senior municipal officials. The mayor does not have a seat on the city council, but can sometimes veto council decisions. In contrast, while the mayors of Canadian municipalities are the purported leaders of their respective cities and are directly elected by the population, they hold no executive power. Moreover, the mayor "does not have any direct control over the municipality's administrative apparatus" (Sancton 2011, 221). Although some Canadian mayors have more power over their councils than others, there are no formal "strong mayor" systems. Instead, executive power is generally held by an appointed Chief Administrative Officer (CAO) or City Manager. While in no case do city managers have as much power over politicians as proponents of the urban reform movement wished, they have more authority than senior bureaucrats at other levels of government because no elected officials hold executive power. Moreover, Canadian CAOs have been found to have significant influence within municipalities. For example, O'Flynn (2011) argues that "the primary function of a municipal CAO is no longer to manage the delivery of services in his or her organization, but to provide leadership and strategic direction to the organization" (O'Flynn 2011, 5).

Council committees support the work of the full council, providing venues for more in-depth discussion of particular issues and projects, and allowing public input in the form of delegations (oral presentations). There are two types of council committees – standing committees which are permanent and focused on specific topics (e.g. the parks and environment

committee), and special committees which are formed for a specific purpose. The council may also choose to hold meetings of the "Committee of the Whole", which is simply a meeting of the council under relaxed rules of order. This is often a procedure used to hear delegations from the general public in municipalities without standing committees.

Committees can be controversial because they may focus legislators' attention on particular issues rather than on the good of the city as a whole. Long-standing members of committees might focus on administrative control rather than their representative function, or they may come to care only about the issues on their committee. Urban reformers were particularly worried that such an issue focus, combined with the neighbourhood focus produced by ward systems, would be detrimental to the overall operation of the city. There is often an "executive committee" that, with some exceptions, has the same status as other standing committees although it is chaired by the mayor and has more responsibility for human resources recommendations. In general, however, it is not the equivalent of a parliamentary cabinet because Canadian mayors do not hold executive power.[19]

City bureaucracies are made up of multiple task-oriented departments, each headed by a senior manager who is usually a "functional specialist" (Sancton 2011, 243). For example, the head of the planning department is a professional urban planner and the head of the transportation department is a professional engineer. This is unusual at other levels of government in Canada where deputy ministers are generalists who are shuffled from department to department every few years. In strong city manager systems, department heads report only to

---

[19] Exceptions include several municipalities in Quebec, as well as Toronto and Winnipeg. In these cities the Executive Committee wields significant power. In Quebec, the combination of political parties and a strong executive committee produces a parliamentary-like system not seen elsewhere in the country. The cases of Toronto and Winnipeg are discussed in detail in Chapter 3, below.

the CAO, but in most cases they report directly to Council. It is also more difficult to be responsible to a group of people rather than a single individual, as is the case at other levels of government. Reporting to council rather than a cabinet minister means that senior municipal officials have to balance the positions and opinions of all councillors, who often do not have a unified position. Thus, they often attend council meetings and answer questions publicly about reports and proposals. This is also a much more public role than that of their counterparts at other levels of government.

1.3   Structure of the Dissertation

In the next chapter, I specify the dependent variable of the dissertation and, drawing on insights from the comparative politics of public policy literature, I develop a theory of climate change mitigation policy adoption at the local level in Canada. To do so I identify a number of testable hypotheses and associated empirical predictions as well as alternative hypotheses. In Chapter 3 I outline the research design, methodology and data collection techniques used in the dissertation. Each of Chapters 4 through 7 focuses on the experiences of one Canadian city and tests the hypotheses from Chapter 2 across four policy areas to provide a detailed explanation of climate change policy adoption. Chapter 8 concludes by bringing together the findings from the cases and suggests the implications of this dissertation for future research on urban politics and climate change policymaking.

Chapter 2: A Theory of Municipal Climate Change Policy Adoption

In this dissertation I answer one main research question: What explains the variation in the adoption of local climate policy among large Canadian cities? The puzzle is that even though Canadian cities face similar constraints, their climate change mitigation policy records are quite different. There is variation in both the number of policies adopted and the coercion and scope of the policy instruments selected. As demonstrated in Chapter 1, some cities adopt very little climate policy at all or adopt measures designed to reduce emissions from their own operations only, whereas others also adopt policy to control their own and private sector emissions. Regulations and taxes are rarely adopted.

The theory of climate change mitigation policy adoption in Canadian cities forwarded in this dissertation is based on the interaction of two related arguments. First, I argue that most cities will adopt climate policy only where political economy considerations favour it. However, such conditions are most likely to exist if the policy results in net benefits rather than net costs, and thus are unlikely for policy that is expected to result in significant reductions in greenhouse gas emissions. In most cases political economy considerations will discourage city policymakers from adopting municipal climate change policy. I further argue that bureaucratic structure, specifically independent environment departments within the City's administration, can facilitate the adoption of climate policy.

In this chapter I begin by specifying the dependent variable. I then outline the causal logic of the theory and specify the independent variables, hypotheses and empirical predictions for the theory and alternative explanations.

2.1   Specifying the Dependent Variable

The key dimension of local climate change mitigation policy that is measured and explained in this dissertation is the policy's likely *impact*, in other words, the quantity of greenhouse gases likely to be reduced or mitigated as the result of the policy's implementation. The impact of local climate policy depends on three factors: the *ambition* of the content of the policy, the *scope* of emissions affected and the *coercive* power of the policy instrument. The combination of these factors produces the likely impact of a policy. For example, as will be elaborated below, for any given level of ambition and scope, changing the policy instrument to increase coercion should increase the impact of a policy. A focus on the likely impact of policies rather than their simple existence is important because if we care about climate change as a real global problem, we should be interested in the usefulness of government efforts. As scholars we should be particularly interested in why some cities (and other jurisdictions) take actions that are likely to have a substantial effect on greenhouse gas emissions while others do not.

The ambition of the content of the policy refers to what the targets of the policy are expected to do. The more ambitious the policy, the greater the emissions reductions expected to result from the policy, assuming full implementation across the widest possible range of existing sources of GHG emissions. For example, an energy efficiency policy that promoted or required a 20% reduction in energy use would be more ambitious than a similar policy that promoted or required a 10% reduction. This is important because if the policy's provisions are weak the impact on GHG emissions will be minimal even if the policy applies widely and is fully implemented. All else equal, the more ambitious the conditions of the policy, the more likely it is to result in significant GHG emission reductions.

The scope of a policy refers to the fraction of the municipality's greenhouse gas emissions that it covers. The scope of the policy matters because even if a policy contains ambitious provisions, if it applies very narrowly it will have minimal impact on the overall emissions in the city. Municipal climate policy may apply only to emissions resulting from the local government's activity ("corporate emissions"), which make up a very small proportion of a city's total emissions, or to emissions produced by other actors ("community emissions") – hypothetically up to 100% of all emissions produced in the city. The distinction between corporate and community emissions is used extensively by practitioners and is very important given that corporate emissions typically account for only a very small portion of the total emissions from physical area covered by the municipality, but is rarely incorporated into academic analysis (but see Krause 2011a; Bae and Feiock 2013). The scope of the policy also depends on the range of types of targets of the policy: for example, the types of vehicles subject to a green fleet policy, or the types of buildings subject to a green building policy.

The third relevant dimension of the dependent variable, coerciveness, is directly linked to the policy instrument selected by the local government. The coerciveness of the policy instrument refers to the degree to which the targets of the policy, those whose behaviour the policy is intended to change, are required to act. I define information provision and exhortations for voluntary action as minimally coercive, subsidies as involving a medium level of coercion, and taxation and mandatory regulation as most coercive.[20] The coerciveness of policy instruments is most obvious when they apply to the public and private sector actors (i.e., policy

---

[20] Subsidies are considered to be more coercive than information provision or voluntary standards because unlike the latter options they put non-adopters at a competitive disadvantage relative to adopters.

to reduce community emissions), but this dimension can also be applicable to internal procedures (i.e., policy to reduce corporate emissions) and service provision (e.g., solid waste collection or road maintenance). Municipal departments often operate independently from one another, share information to only a limited degree, and compete with each other for budgetary allocations. Also, instructions from Council may include more or less obligatory language. For example, a policy to increase energy efficiency in City-owned buildings may require that projects meet certain criteria (more coercive), or it may instruct staff to consider energy efficiency in their proposals (less coercive). Similarly, building a separated bicycle lane is more coercive than painting "share-the-road" markers on the same street because the former physically re-allocates public space from one group (drivers) to another (cyclists).

I consider more coercive policy instruments to be more likely to lead to reductions in greenhouse gas emissions than less coercive instruments. Where policy applies to the general public and the private sector, the degree to which the coerciveness of policy instruments affect the impact of climate policy will depend on whether adherence to the provisions of the policy results in net costs or net benefits. In this dissertation I argue that more coercive policy instruments will have a higher impact than less coercive policy instruments, all else equal, because there are few scenarios in which less coercive options (namely information provision and subsidies) are likely to be effective in changing behaviour or to be practical for local governments.

If there are clear and certain net financial benefits to actions to reduce greenhouse gases we should see that local governments, private sector actors and residents are already engaging in these behaviours or making these investments. If they are not, it could be that they are unaware of the net benefits. If this is the case, then providing information (either to the public or to

political decision-makers) should be sufficient to result in changed behaviour. However, it is unlikely that actions that will lead to deep greenhouse gas emissions reductions will have net financial benefits. Moreover, it could be that the net benefits are either uncertain (perhaps because they are distributed over time) or not financial. In such cases, information provision will not lead to changed behaviour.[21]

Where there are uncertain net financial benefits or net financial costs, providing a subsidy to offset the risk or cost could work to encourage behaviour change. However, it is impractical for governments, particularly local governments with their constrained revenue generation capabilities, to cover all of the costs of adherence to climate policy – particularly in the private sector. If the subsidy does not cover *all* net costs, then it will be ineffective because it will not solve the problem for the private actors. Where net costs are not financial (e.g., the costs of changing personal habits or ideological positions) subsidies may not be effective in changing behaviour. As a result of all of these considerations, I conclude that coercive policy instruments are very likely to have a higher impact on greenhouse gas emission reductions, all else equal, than less coercive policy instruments.

2.2 Why is There Variation in the Climate Policy Adopted by Cities?

As demonstrated in Chapter 1, despite enthusiasm in the scholarly literature and among practitioners, most Canadian cities' climate change policies are modest at best – and yet there is variation across cities. Why? I argue in this dissertation that most cities will adopt climate policy

---

[21] For example, in the context of energy efficiency practices, Jaccard (2005) argues that even if there is a net benefit over the long term, uncertainty creates risk and that a true assessment of costs and benefits must take into account the degree to which citizens and firms discount that risk. Rather than being like picking up the proverbial $20 bill, it is like gathering $20 in coins strewn across a potentially hazardous landscape. There is no guarantee that all can be retrieved, or that a further injury will not be incurred in the process.

only where political economy considerations favour it. However, such conditions are most likely to exist if the policy results in net benefits rather than net costs, and thus are unlikely for policy that is expected to result in significant reductions in greenhouse gas emissions. In most cases political economy considerations will discourage city policymakers from adopting municipal climate change policy. I argue that bureaucratic structure, specifically the presence of independent environment departments within the City's administration, facilitates the adoption of high impact climate policy. Below I outline the causal logic of each of the components of this argument, beginning with the political economy factors, before setting out potential alternative hypotheses.

2.2.1   Political Economy Context

Municipal policymakers, both politicians and staff, are affected by their city's political economy – that is, by the influence of both citizens and economic interests.[22] I suggest that there are five primary political economy factors that motivate climate policy decisions: explicit business influence, implicit business influence, public opinion regarding climate change, public attention to climate change, and the expected cost of the policy to the local government. I expect that higher values of the business influence variables (both explicit and implicit) will correspond with lower levels of climate policy adoption. I expect that higher values on the public opinion and public attention variables will correspond with higher levels of climate policy adoption, and I expect that the higher the cost to the local government of a climate policy, the less likely it will be adopted. If these variables explain climate policy outcomes in the cases examined in this

---

[22] I use the term "policymakers" to refer to staff and politicians, collectively.

dissertation, I expect that they will operate through specific causal mechanisms. The hypotheses that will be tested, as well as the empirical predictions of the mechanisms, are detailed below.

The first two hypotheses, about business influence, are based on insights from the local political economy literature discussed in Chapter 1. Scholars writing in the American urban politics tradition – from elite theorists to pluralists, as well as scholars of public choice, urban regime theory and growth machine theory (e.g. Hunter 1954; Dahl 1961; Peterson 1981; Stone 1989; Logan and Molotch 1987) – all suggest that economic interests, particularly businesses that have the option of locating elsewhere, exert considerable influence over the decisions made by local governments. Because climate change policy is likely to negatively affect both local and footloose businesses that benefit from the status quo, these actors are likely to oppose it.

Similarly, in the context of the politics of public policy more broadly, Wilson (1980) theorizes that interest groups will organize if the costs or benefits of public policy are concentrated. Climate change mitigation policy is likely to have diffuse benefits for all citizens and concentrated costs on those who benefit from the status quo – namely businesses. Thus, these actors are more likely than others to organize in opposition to climate change policy proposals and other decisions that they believe will jeopardize their current status and success. Thus, quite apart from their dominant position as theorized by urban politics scholars, businesses are more likely than other actors to intervene in the political or administrative processes of the City to communicate and advocate for their position regarding climate policy.

Whatever their motivations for exerting influence, businesses may shape climate policy adoption in Canadian cities through direct and explicit intervention in municipal politics.

H1: Local governments will make climate policy that is consistent with the interests of business, *as explicitly articulated by economic actors* (both firms and business associations).

The specific actions taken to achieve this consistency may vary. A local government might fail to pass a policy proposed in Council because of concerns voiced by economic actors, a policy might be designed such that the provisions cater to business interests (as expressed by those actors), or policymakers might keep items or issues off the agenda because they have been opposed by business.

If explicit opposition from economic actors is the cause of variation in climate change policy among Canadian cities, I expect to observe in the empirical cases that where there is little climate policy there is also active and direct lobbying of politicians and staff by representatives of specific firms as well as business associations such as the Chamber of Commerce. Moreover, these firms and associations will make explicit public statements in opposition to climate policy. I also expect that representatives of firms and business associations will be active participants in the policy development phase of climate change initiatives that are likely to affect the profitability of the local business community, and that the City makes concessions to economic actors, either in the decision to adopt a policy or in the specific provisions of it. Moreover, the resulting climate policy will not impose costs on locally important businesses and industry. In the context of process tracing, the method used in this dissertation to evaluate the hypotheses, these empirical predictions constitute hoop tests. Accordingly, finding evidence consistent with

them will increase our confidence that the hypothesis is correct. However, not finding such

evidence will greatly reduce our confidence that the hypothesis is correct.[23]

The second political economy hypothesis addresses the implicit influence of business

actors. Both Lindblom (1977; 1982) and Peterson (1981) argue that governments compete for

votes (and residents) by making policy decisions that do not jeopardize jobs and the economic

welfare of the city. This gives economic actors power over elected officials *even when they do*

not make explicit demands.

H2: Local governments will make policy that is consistent with the interests of business,

even when these interests are *not* explicitly articulated by economic actors (firms or

business associations).

As for Hypothesis 1, the actions that policymakers take in responding to this influence

might be to keep issues off the agenda, to design the specifics of a policy to cater to business

interests (as expressed by local government officials), or to fail to pass a policy proposed in

Council because of concerns about negative effects of economic actors as voiced by politicians

or staff.

I expect that implicit business influence will manifest itself through policymakers'

emphasis on promoting economic growth. Policymakers might pursue economic growth for a

number of different reasons. They could perceive policy that promotes economic growth to be in

the interest of economic actors or they could believe that the city's interests are identical to those

of economic actors. As argued by Lindblom (1977), economic actors have structural power

---

[23] Hoop tests create asymmetrical implications in terms of the causal inferences that can be made from finding or not finding evidence consistent with the empirical predictions of a hypothesis. Finding evidence consistent with the predictions strengthens our confidence in the hypothesis much less than not finding such evidence undercuts the hypothesis. The logic of process tracing tests and their implications are discussed in detail in Chapter 3.

because they are the providers of the welfare (e.g., jobs, income, standard of living) that politicians rely on for re-election. As a result, it is in the interest of local policymakers to support economic growth regardless of explicit demands by those economic actors. Policymakers' knowledge about what is in the interest of economic actors could come from ideas about inter-municipal competition for jobs and investment, or it could be because they were privately lobbied by real estate developers or other business interests out of the public eye. This influence is "implicit" by my definition because it will take the official form of statements about the interests of economic actors made by politicians and staff. The research design of this dissertation does not allow me to distinguish between action taken because of policymakers' causal ideas about what is in the interests of economic actors and actions taken because of the behind-the-scenes influence of those actors.

If economic actors exert implicit power over climate policy decisions, I expect to observe that policymakers will oppose climate policy on the grounds that it will hurt business and impede economic growth. The higher the expected cost of climate policy for locally important economic sectors, the more likely it will be to be seen as impeding economic growth, and the less likely it will be adopted. I expect that where there is a conflict (or perceived conflict) between climate change and economic development goals, economic development will take precedence. If these elements are observed in the empirical cases explored in Chapters 4 to 7, the hypothesis will be strengthened. If they are not, it will be greatly weakened.

The hypothesis will be additionally strengthened if outsiders (media, interest group observers, staff and others) perceive that policymakers' main focus is the economy – even in the absence of specific demands by economic actors, and if – again, even in the absence of explicit

opposition by business interests – the climate policies adopted by the municipality do not impose costs on locally important economic sectors.

These two hypotheses encapsulate a wide range of the ways in which economic actors may influence local climate policy. However, there is a possibility that the interests of economic actors vary across cities or that some cities are more subject to the constraints of inter-municipal competition than others. This variation could be the result of characteristics of the municipalities: whether they are financial centres or "global cities", central or suburban cities, the presence of topographic limits to urban growth (such as mountains or large bodies of water), the size of the population, the rate of economic growth, or the share of the manufacturing sector in the local economy. The cases explored in this dissertation vary on a number of these metrics.

In order to control for these possibilities I will pay careful attention to variation in the *content* of business demands (for the hypothesis about explicit business influence) and of statements by local officials about the interests of business (for the hypothesis about implicit business influence). I will also look for evidence of differences in inter-municipal competition across cities in the ways that the economic interests of the City and the interests of business are framed by business actors themselves, government officials, and civil society actors. However, I expect that all cities will be subject to some form of inter-municipal competition because the most influential economic actors are not local ones. Cities compete for "footloose" capital that is not restricted to the local, regional or even national arena. While some cities may compete with other municipalities in the metropolitan area, others may also compete with cities across the country or internationally.

In addition to economic actors, citizens may also influence municipal climate policy adoption. Citizens influence policymakers because politicians seek to be re-elected, either as

their primary goal (Mayhew 1974), or as an indirect path to policy influence (Jacobs 2011; Docherty 1997; Weaver 1986). Where citizens' concerns favour climate policy, I suggest it is more likely to be adopted, but in most cases – and particularly for high impact policies – politicians' electoral considerations will tend to reduce the likelihood that climate policy will be adopted.[24]

The two hypotheses, below, are based on ways in which policymakers' perceive their electoral interests: through public opinion and public attention. Public opinion influences policymakers' behaviour because they believe that this will translate into popularity and votes on election day. Politicians seek to claim credit for enacting policy on popular issues, but they also seek to avoid blame for making unpopular decisions (Weaver 1986). Consequently, the greater the public opposition to climate policy, the less likely local policymakers will be to adopt it; and policymakers may adopt policy that is consistent with the dominant trends in local public opinion. However, measuring public opinion on the topic of climate change at the municipal level is difficult. Local policymakers may not have access to the same kinds of sophisticated polling information as their provincial and federal counterparts and they are likely to be influenced by what they *think* the public wants. In addition to formal surveys or polls, policymakers may also encounter public opinion through interaction with the public. For this dissertation I measure public opinion in terms of policymakers' *expressed perceptions* of what the public wants.

---

[24] While politicians are those directly affected by electoral considerations, I argue that the same mechanisms operate on municipal staff because they know that their policy proposals must be passed by councillors who are thinking about these issues (see Kingdon 1995). In other words, staff are sensitive to the electoral concerns of politicians.

Residents may communicate their views to policymakers by responding to surveys and polls, by joining interest groups or social movements, or by undertaking direct lobbying activities. Because climate policy tends to produce concentrated costs and diffuse benefits, following Wilson (1980), citizens are more likely to oppose policy that negatively affects them than to lobby in favour of climate policy that produces outcomes to their benefit. As a result, local policymakers are more likely to observe public opposition to climate policy than public support, and climate policy is unlikely to be adopted.

H3: Local governments will adopt policy that is consistent with public opinion, as perceived by policymakers. The greater the public opposition to climate policy, the less likely it is to be adopted.

This hypothesis leads to a number of empirical predictions. First, there should be evidence in the form of public statements, official reports, or activities of the local government that policymakers both seek out and care about public opinion. Second, we should observe that citizens publicly express their views about climate policy, either through surveys or direct contact with policymakers. Third, we should observe that climate policy is adopted where policymakers perceive that citizens are in favour of it, and not adopted where it is perceived that they are opposed. If these three elements are not observed, then the hypothesis will be greatly weakened; if they are observed, the hypothesis will be strengthened.

Public attention, or "issue salience" can be defined as "the scarce resources – time and other – that citizens willingly dedicate toward thinking about a publicly debated issue" (Ripberger 2011, 240). Salience matters because when and where there is significant public attention to an issue, politicians may interpret this as a strong desire by voters to see that issue addressed. Because politicians seek to claim credit for acting on popular issues (Weaver 1986),

53

the government is more likely to create policy in that area. Conversely, when attention is low, other issues take priority. As a result, I expect that climate policy is more likely to be adopted in when attention to climate change is high.

> **H4:** When the public is paying more attention to climate change, local governments are more likely to adopt more – and higher impact – climate policy.

Public attention to an issue can be measured in various ways. An early measure was results of nationwide "most important problem" polls (where respondents are asked what they consider to be the most important problem facing the nation at that time). The limitation of this method is that it is a static measurement of the issues that are top-of-mind at the particular time of the survey. This is problematic because attention to issues in the public sphere does not remain constant over time. Another approach is to use media coverage as a proxy for public attention. The logic is that the more prominent an issue is in the media, the more exposure individuals have to the issue and the more likely they are to be paying attention to it. This is a passive form of attention. Ripberger (2011) argues that Internet searches are a more valid measure of public attention than media coverage because individuals must use terms associated with the issue in order to perform searches, and therefore aggregate search trends demonstrate active attention to issues.

In this dissertation I measure public attention in two ways. First, following Ripburger (2012), I measure public attention to climate change in each city using Google Trends. This is a Google product that allows users to observe trends in Internet searches over time, as well as

make comparisons between locations and among search terms.[25] Second, I look at policymakers'

perceptions of public attention. As for public opinion, policymakers may have ideas about the

level of public attention to climate change or a specific policy area because they interact with

citizens at public meetings or direct communication. These perceptions may or may not be

accurate, but they may influence policy decisions. The measure here is policymakers' stated

perceptions of public attention to climate change or the specific policy areas in question.

If public attention is a determinant of climate policy adoption, attention should vary over

time and across cities *and* should be associated with variation in climate policy both across cities

and over time within each city. We should observe that those cities with more climate policy are

also those in which residents pay more attention to climate change, and that within each city

there is correspondence between the timing of policy adoption and peaks in public attention to

climate change (or that policy is adopted after a short lag). These observations will strengthen the

hypothesis, and their absence will weaken it. A further empirical prediction of the hypothesis is

that policy should be adopted when policymakers' perceive that the public is paying attention to

the specific policy issue in question. In the context of this dissertation: cycling infrastructure,

green building, fleet management, or landfill gas capture.

It is possible that issue salience is not the cause of the variation in climate policy, but is

instead the *result* of underlying characteristics of particular cities that are themselves the cause of

the policy variation. For example, some cities may simply be at greater objective risk of the

negative outcomes of climate change. This geographic vulnerability (e.g., being located in a low-

---

[25] Google Trends provides normalized and scaled data. The results of each search are plotted "on a scale from 0 to 100 by dividing the total search volume at each point in time by the highest value within that same time frame" (Ripberger 2012). Google Trends data is not available at the municipal level in Canada. However, the program compares regional search volumes within the province.

lying coastal area or in a flood-plain; depending on glaciers for water supply) may lead climate change to be a more top-of-mind issue. If this is the case, we should observe differences in salience between cities, but not over time – except for instances of extreme weather events such as floods or droughts which should lead to strong increases in attention. We should see that variation in climate policy is associated with differences in these underlying conditions: cities more vulnerable to climate risks should have more climate policy than less vulnerable cities, and there should be little variation in climate policy (and local government support for climate policy) over time within cities.

The final political economy hypothesis brings together business and citizen influence. It is based on assumptions of much of the urban political economy literature and one of the legacies of the urban reform movement of the late 19th and early 20th centuries: because local governments are centrally concerned about the city's economic health, they emphasize cost savings and the financial benefits of policies. This is because lower costs are associated with lower taxes, and both citizens and businesses are assumed to want lower taxes. As explained in Chapter 1, the urban reform movement envisaged local governments as technocratic service providers and administrators. In the current period, cities have continued to generate revenue through means established in reform era: property taxes, fees-for-service, and fiscal transfers from provincial governments. Moreover, despite increasing emphasis on democratic representation at the municipal level, local elected officials continue to see their primary role as providing services through the efficient management of public funds (Tindal and Tindal 2004; Sancton 2011). Because policymakers seek to minimize taxes, they consider all policy – including climate policy – in the context of its cost to the local government. Thus, they should

prefer policies that lead to net financial benefit and seek to avoid policies that lead to net financial costs.

This hypothesis is consistent with the "co-benefits" explanation for local climate change policy. In the local climate change policy literature, this term is used to refer to a situation in which city governments adopt climate policy in order realize other goals such as "economic savings and other environmental benefits" (Betsill 2001, 395). While the literature suggests that economic savings are only one of several types of co-benefits, fiscal considerations are at the top of the list (Kingdon 1995; Kousky and Schneider 2003). For example, Kousky and Schneider's (2003) study of 23 cities pointed to economic benefits as the most important explanation of municipalities' climate action.

Climate policy varies in the extent to which it creates net costs for local governments. For example, it is likely that some local climate policies (particularly high impact ones) will lead to lead to net financial costs, while others (likely low impact ones) will not. In most cities there is significant low-hanging fruit: emissions that can be reduced at a net benefit to the municipal government. As a result, I expect that pressure to minimize costs will lead cities to be more likely to adopt climate policy when the expected costs to the local government are low or non-existent. For example, a policy to increase the fuel efficiency of municipal fleets is likely to lead to financial benefits for the city and thus is more likely to be adopted.

H5: Cities are unlikely to adopt climate policy that leads to net costs to the local
government.

There are three primary empirical predictions of this hypothesis. First, we should see that policymakers do, in fact, see fiscal responsibility as central to their role. If this is the case, the hypothesis will be strengthened, but if it is not, then the hypothesis will be greatly weakened.

57

Second, we should observe that climate policy is adopted when it does not impose net costs on the local government, and rejected when net costs are expected. If this is observed, the hypothesis is strengthened. If it is not, the hypothesis is greatly weakened. Third, we should observe that discussion of climate policy proposals – in bureaucratic reports, committee and Council meetings, and in the media – focuses on the fiscal implications. If observed, this strengthens the hypothesis. If not, it greatly weakens the hypothesis.

Taken together, these five hypotheses are the ways in which I expect political economy factors may influence the likelihood that municipalities will adopt climate change mitigation policy. Although it is possible that variation in the political economy factors above are responsible for the variation in climate policy observed across Canadian cities, as shown empirically in Chapter 1 and in previous studies (e.g., Robinson 2000; Robinson and Gore 2005), most Canadian cities have not adopted much climate change policy as defined in this dissertation. Moreover, the few policies that have been adopted tend not to be of high impact. I expect that this is because the political economy factors that shape decisions about climate change policy are largely similar across cities and this has, on the whole, dampened municipal enthusiasm for high impact climate policy. The degree to which these factors are similar or vary across cities is an empirical question, however. The influence of citizens and business interests – and the content of their demands – are explored for each of the case study cities in Chapters 4 to 7, below.

2.2.2 Sources of Climate Policy Variation

If, as I expect, political economy factors are generally constant across Canadian cities, they cannot explain the observed variation in climate change policy. I argue that the observed variation is, instead, the result of another factor: the institutional structure of the municipal

bureaucracy. However, there are a number of other alternative hypotheses that might also explain this variation, including the influence of policy champions, participation in climate change networks, municipal electoral systems, and provincial control. The causal logics and empirical predictions of these hypotheses are outlined below.

2.2.2.1 Independent Environment Departments

Principal-agent theories have dominated the literature on bureaucratic autonomy. This literature was motivated by Niskanen (1971), who theorized that bureaucrats do not always follow the dictates of their political masters because they are utility maximizers. Early principal-agent theories (Moe 1984; Weingast 1984) suggested that the bureaucracy can exert an autonomous influence over policy outcomes because politicians lack the time and expertise to effectively control it. More recent work in this tradition has suggested ways in which politicians can influence this relationship – both to make bureaucrats more responsive to their demands and to shelter their policy choices from interference from future politicians. Huber and Shipan (2002) argue that politicians can "delegate deliberately" through the specific framing of legislation – specifically in the level of detail included in statutes. Horn (1996) and Lewis (2003) each argue that legislators can influence bureaucratic behavior and insulate policy decisions from future interference through the design of agencies and bureaucratic units.

Principal-agent theory has not gone unchallenged. For example, Meier and O'Toole (2006) argue that the public administration literature has long recognized the potential that bureaucracies have their own sources of power and authority – for example, Simon (1947) "argues that…[b]ureaucrats have a 'zone of acceptance,' and requests to act outside that zone in normal circumstances are rejected" (Meier and O'Toole 2006, 178). Similarly, scholars such as Daniel Carpenter (2001) have suggested that in some cases bureaucrats and bureaucratic

agencies have significant autonomy and act as politicians in their own right – for example, they may change the terms of the relationship between elected and appointed officials, or influence politicians' preferences and choices. Carpenter (2001) notes the that bureaucratic autonomy does not mean the ability for public servants or agencies to do whatever they want, whenever they want, but instead that they are able to "change the agendas and preferences of politicians and the organized public" (Carpenter 2001, 15). Moreover, agencies may not always be seen to be obviously exercising their autonomy as "bureaucrats who value their autonomy will act in measured ways to preserve it, refraining from strategies of consistent fiat or defiance" (Carpenter 2001, 15). Other writers, such as Manuel Teodoro (2009), argue that public servants are not simply either "zealots" or "slackers" (e.g. Gailmard and Patty 2007), but rather, they can exert autonomous influence because – due to professional norms and training – they have the option of voluntarily exit. This possibility is not accounted for in principal-agent theories.

Additionally, as discussed in Chapter 1, there is a long tradition of bureaucratic autonomy in urban politics, similar to the national level phenomenon described by Carpenter (2001). Urban reformists in the early 20th century believed in bureaucratic autonomy as a normative goal – as a way to counter the power of machine politics and corruption that characterized much of 19th century city governance in North America (Clingermayer and Feiock 2001). Through the manipulation of formal and informal institutions, they set out to achieve these goals by both empowering bureaucrats and decreasing the influence of politicians. They changed electoral rules, the size and make up of councils, the power of standing committees, encouraged the professionalization of bureaucrats and created powerful new bureaucratic positions such as the chief administrative officer (CAO).

By the 1970s citizens began to protest the lack of public input into municipal decisions (Leo 1977), but municipal bureaucratic autonomy has persisted, despite shifts towards public participation and increased professionalization of municipal politicians (e.g. making being a city councillor a full-time, paid position). In some ways, these changes have meant a change in the role of senior administrators. For example, rather than simply "leading down" – i.e. managing the bureaucratic apparatus, the role of the Chief Administrative Officer (CAO), now also involves "leading up" – managing the relationship between council and the bureaucracy, and "leading out" – managing relationships with business groups, residents groups, other governments, the media and others (Siegel 2010).

I hypothesize that independent environment departments within local bureaucracies increase the likelihood that cities will adopt high impact climate policy. This is because, I argue, their independence – in the form of insulation from political and administrative interference and organizational capacity – allows them to provide other departments with information and resources that facilitate policy learning and the institutionalization of ideas about sustainability throughout the local bureaucracy.

Studies of the role of particular departments within municipal governments are not common in the urban politics literature; however, this hypothesis is in not unprecedented. In his examination of cases of intergovernmental cooperation between the City of Toronto and the Government of Ontario, Horak (2012) finds that the most successful instances were those for which "a competent, cohesive group of administrators existed at the local level. [This group] helped to forge policy goals and coordinating strategies and to sustain policy activity if and when political interest at city hall wanted" (Horak 2012, 254).

Tews' (2015) findings are even more closely aligned with the hypothesis presented here. In her study of German municipalities' reactions to European Union climate change and energy policies, Tews finds that "[l]ocal administration units are necessary to collect information and to develop skills needed to react to EU legislation, apply for funding, or participate in networks" (Tews 2015, 4). Moreover, local administrative structure plays an important role. Tews argues that if such units are decentralized – if the responsibility to respond to European Union policy falls to existing departments – this results in "a higher workload [and] may prevent local actors from engaging in EU activities that are not exactly in line with existing local policy and from exploring new approaches" (Tews 2015, 4). In contrast, centralized units for European Union relations provide information and resources in a way that "more efficient coordination of the [European Union] activities within the local administration, shorter decision making processes, and a higher standing" (Tews 2015, 4). Similar to the hypothesis presented in this dissertation, in Tews' account, such centralized units "may provide assistance with regard to [European Union] activities (project management, controlling etc.) and thus support regular departments (Tews 2015, 4). The most important difference between Tews' (2015) and the hypothesis here is that Tews does not examine independence as a feature of administrative units. The centralized units she studies mostly fall within the office of the mayor. In this dissertation such units would not be considered to be fully independent departments.

Canadian municipal administrations are variously organized such that some have designated environment departments, while others create environment-related positions within traditional municipal departments such as planning or public works, or simply assign environmental responsibilities to the existing workforce. These designated environment departments may be more or less independent depending on the degree to which they are

"insulated" from political and administrative interference, and the level of their organizational capacity.

Environment departments can be said to be "insulated" if they are protected from interference by politicians and traditional line departments such as public works or planning. An environment department's insulation is greater if it is part of the permanent bureaucratic structure (as opposed to being part of the Mayor's office, for example); if it survives changes in political leadership; if it is administratively separate from line departments; and if it has a dedicated source of funding that is not dependent on allocations from other administrative units. These features protect environment departments from the unpredictability of electoral cycles, and from the often traditional notions (i.e., indifference to climate change) held in many planning and public works departments about of the appropriate role of municipal governments. In fact, these departments' insulation from mainstream departments allows them to be a new "locus of authority" (Hall 1993, 280) to promote a new policy paradigm in which the issues of climate change and sustainability are incorporated into all aspects of municipal policymaking.

Organizational capacity is the second dimension of independence. Existing literature focused on central governments has shown that the design of agencies and bureaucratic units can influence bureaucratic behaviour and may shield policy decisions from future interference (Horn 1995; Lewis 2003). Skocpol (1985) argues that an important factor in the creation of public policy is the capacity of the state apparatus itself, and Ziblatt (2008) finds that local bureaucracies with more money and expertise provide more public goods. This is consistent with Carpenter's (2001) emphasis on organizational capacity as a determinant of bureaucratic autonomy, and is echoed in Robinson and Gore's (2005) findings that municipal bureaucrats see a lack of fiscal capacity as a barrier to implementing climate policy, and pleas by the Federation

of Canadian Municipalities (FCM) to federal and provincial governments for more infrastructure funding (FCM 2014). The financial and technical support provided to municipalities for sustainability projects by the FCM's Green Municipal Fund suggests that the organization sees a link between fiscal capacity and sustainability policy.

That sustainability is their only area of responsibility contributes to independent environment departments' organizational capacity. A municipal environment department's organizational capacity is a function of the financial and human resources available within the department, including funding for environmental projects, recruitment of employees dedicated to environmental issues who share principled and causal beliefs (Goldstein and Keohane 1993) about the role of municipal government in this respect, the department's scope and mandate to consider and promote environmental issues across the whole municipal organization, and time for staff to work on environmental projects and apply for outside sources of funding. This capacity is stands in contrast to the alternative of simply adding climate policy to the responsibility of staff in other departments. Increasing the workload of already busy municipal bureaucrats is unlikely to be a successful strategy because these staff will not have time to devote sufficient attention to an issue that is tacked on to their existing and often congested schedules.

To use Heclo's (1974) terminology, independent environment departments achieve their policy goals, I hypothesize, not by "powering" but by "puzzling". Such departments use their organizational capacity to facilitate policy learning leading to all three types of policy change as defined by Hall (1993): incremental change to policy settings, strategic actions to change policy instruments, and more significant paradigm shifts that result in a fundamental realignment of the interpretive frameworks that "specif[y] not only the goals of policy and the kinds of instruments that can be used to attain them, but also the very nature of the problems they are meant to be

addressing" (Hall 1993, 279). The presence of these departments also helps to institutionalize ideas of sustainability and climate change mitigation. As Goldstein and Keohane (1993) describe it, the institutionalization of ideas – in other words embedding ideas in rules and norms – shapes policy by constraining the choices available to policymakers (Goldstein and Keohane 1993, 21). In this case, by signaling the long-term importance of climate change as an issue to be addressed by the local government, environment departments make it harder for line departments to ignore sustainability concerns. Additionally, their organizational capacity allows them to provide the money, staff and information that facilitate the institutionalization of such considerations within line departments. One way they might do this is by supporting potential policy champions within those line departments – in other words, by helping staff to identify opportunities to use their position to advance the climate change mitigation agenda.

> **H6:** In cities where at least one independent municipal environment department exists within the municipal administration, it will be more likely that the local government will adopt high impact climate policy.

This hypothesis leads to a number of empirical predictions. We must observe that there is at least one independent environment department in cities with high impact climate policy. If those cities with high impact climate policy do not have such a department, we must reject the hypothesis. Further, the hypothesis will be strengthened if the independence of the environment department (as defined above) is positively associated with climate policy across cities. Note that because independence is a continuous variable, departments may be "incompletely" independent. For example, they may not be fully insulated from political or administrative interference. We should observe that cities with municipal environment departments that are more independent are more successful in adopting high impact climate policy. However, this is not sufficient to

confirm the hypothesis. We should also observe that the department uses its resources – money, staff time, and information – to support the development and adoption of climate policy. As above, we should observe that more independent departments more effectively support the adoption of municipal climate policy.

There are two reasons that we might be skeptical of an observed relationship between independent environment departments and climate policy. First, the relationship might be spurious. In other words, some third variable might be causing both the departments and the policy which would lead us to *think* that there is a causal relationship between them when there is not. One way to mitigate this possibility is simply by testing the hypothesis by looking for evidence consistent with its empirical predictions as described above. If we find evidence supporting the claims about *how* the causal effect happens, we can be more confident that it *does* happen and that the observed relationship is not spurious.

Even if we are convinced that there is a causal relationship between independent environment departments and climate policy and that it operates through the mechanism outlined above, we might still think that such departments are simply the result of an antecedent variable, and that the more important causal relationship is between that antecedent variable and climate policy. However, if we observe that municipal environment departments emerge from various sources – for example that they are not all simply the result of trends in public opinion – we can be more confident that they constitute an important explanatory variable. We should also observe that environment departments should survive across the tenure of political leadership of varying ideology. If we observe that environment departments are all created by policy champions or that are all the result of changes in public opinion that favours climate action, this will both weaken the hypothesis and increase the probability that the observed relationship is due to spuriousness

or an antecedent variable. Where they exist, the origins and survival of environment departments are explored in detail in the empirical chapters. Additionally, finding that the presence of a potential antecedent variable, such as individuals committed to climate change action within the local government, does not always lead to the creation of an independent environment department would weaken the claim that environment departments are simply an intervening variable. Because finding evidence consistent with these predictions weakens our confidence in a potential causal link between environment departments and a third variable, it would also decrease the likelihood that the relationship between environment departments and climate policy is spurious.

2.2.3   Alternative Explanations

The above hypotheses constitute the central argument of this dissertation, namely that political economy factors make it difficult for municipalities to adopt high impact climate policy, but the presence of independent environment departments can facilitate such action. However, finding evidence that supports this hypothesis is insufficient to confirm it; we must also show that alternative hypotheses are less good explanations of the variation we observe.

2.2.3.1   Policy Champions

An important alternative hypothesis to the institutional explanation above is that variation in climate policy across cities is the result of variation in the presence of policy champions: individuals who facilitate the adoption of climate policy within the municipal administration. Whether or not these individuals are directly involved in developing the particular policies, champions use their influence to ease the passage of policies through the administrative hierarchy. This facilitation may be done through negotiation and political bargaining, or by spreading information.

67

The policy influence of particular individuals and their ideas is well established in the public policy literature. The actions of policy entrepreneurs – "highly motivated individuals or small teams [that] draw attention to policy problems, present innovative policy solutions, build coalitions of supporters, and secure legislative action" (Mintrom and Norman 2009, 649) – have been explicitly and implicitly used to explain outcomes in a wide variety of policy areas from a number of different theoretical perspectives.[26] A common hypothesis in the local climate change policy literature is that the personal influence of specific leaders or "champions" results in the adoption of municipal climate policy (e.g., Bulkeley and Betsill 2003; Krause 2011a). Such leaders hold strong normative beliefs about the positive value of local climate change policy, propose policy measures, and facilitate their adoption.

Many scholars of public policy, including Kingdon (1995) and Mintrom and Norman (2009), argue that policy entrepreneurs can be individuals situated inside or outside the government. Mintrom and Norman (2009) suggest, however, that "insider knowledge" of institutions is often crucial for achieving policy change. Moreover, Hicklin and Godwin (2009) argue that we need to "move past the (often) one dimensional treatment of the bureaucracy" and take seriously, from a theoretical perspective, the role of public managers (Hicklin and Godwin 2009, 19). In this dissertation I do this by defining policy champions as those policy entrepreneurs located within the local government.

In scholarship on local governance, policy champions tend to be politicians – particularly mayors (e.g., Gissendanner 2004) – but I argue that any individual with policy influence within the local government, including staff, could be a champion of climate change policy. This

---

[26] For a good overview of this literature, see Mintrom and Norman (2009).

includes mayors and city councillors, as well as senior administrators and middle-level staff. In the context of this dissertation, champions based in the administrative arm of the local government need not be the chief planners or engineers, but they must have authority in the particular issue areas studied, such as fleet management or solid waste.

The concept of "middle level bureaucrat" is used imprecisely in the literature. While Howlett and Walker (2012) disaggregate Canadian federal and provincial/territorial public servants to distinguish between public managers and non-managerial policy analysts, Carpenter (2001) uses the term "middle level" to distinguish agency heads from appointed department secretaries and street-level service providers. However, these distinctions do not apply neatly to the local level. Teodoro (2009) writes about local governments, focusing on the "mezzo-level" of administration – the level between service providers and elected officials: senior bureaucrats such as the Chief Administrative Officer and the police chief. I use the term to refer to a broader range of staff than these authors. Here, middle level refers to those staff positioned between the senior administrators and street-level service providers and whose formal positions may or may not be defined as managerial.

> **H7:** Municipalities adopt climate policy because of the influence of internal policy
> champions who facilitate the passage of climate policy through bureaucratic and political
> channels.

In Kingdon's (1995) framework, policy entrepreneurs contribute to policy formation through their lobbying and political coalition-building. Such individuals can be successful in bridging problems and solutions because they have a legitimate position within the policy network, political connections or bargaining skills, as well as persistence and willingness to make large personal investments. Once they have emerged, the success of Kingdon's policy

entrepreneurs depends on their ability to identify and take advantage of policy windows. In practice, however, these policy windows are difficult to identify and even harder to predict. Arguments about policy entrepreneurs in the local environmental politics literature tend to be similarly underspecified, in the sense that there are many staff and politicians who are personally committed to particular policy goals, but there is little discussion of the conditions under which they are likely to be effective (e.g., Betsill, 2001; Krause 2012).

There are policymakers who are personally committed to climate change mitigation in many cities, but only some have been able to successfully champion climate policy that is likely to substantially reduce greenhouse gas emissions. If we observe a similar number of policy champions across cities with varying levels of climate policy, this will weaken the hypothesis. Similarly, if we observe cities with policy champions who hold positions of similar levels of authority – e.g. mayors, senior administrators, middle managers – but different levels of climate policy, this will weaken the hypothesis.

However, if we observe there are policymakers – politicians, staff, or both – who are deeply personally committed to climate change mitigation action by local governments in cities that adopt significant levels of climate policy but not in cities that adopt minimal climate policy, this will strengthen the hypothesis. Climate policy champions, if they are the cause of climate policy adoption, should be involved throughout the process of development and adoption of climate policy, as appropriate to their position (i.e., staff will have a larger role in the development of the proposal within the bureaucratic context, and politicians will have a larger role in meetings of committees and Council). If we observe that individuals who hold strong beliefs that cities should be undertaking climate policy are not strong proponents of these policy

proposals throughout the process of policy development and adoption this hypothesis will be greatly weakened.

As noted above, it is also possible that policy champions might exert influence by creating or shaping institutional structures within the administration. If we find that institutional features of local governments – such as independent environment departments – are the cause of variation in climate policy across Canadian cities *but* that these departments were all created by policy champions in order to achieve their policy goals, then this hypothesis will be strengthened, and the hypothesis regarding institutional structure will be weakened.

2.2.3.2   Intergovernmental Climate Change Networks

Another alternative explanation of the variation in climate change policy adoption across Canadian cities can be derived from the literature on interurban climate change networks and intergovernmental agreements. Since 1992, cities around the world have signed intergovernmental agreements such as the ICLEI Climate Protection Program, C40 Cities initiative, the US Conference of Mayors Climate Protection Agreement, or the Council of European Mayors. As part of their participation, many have undertaken benchmarking and greenhouse gas (GHG) inventory activities and created climate action plans. A number of prominent analyses of local climate change policy present an argument that participation in these interurban networks demonstrates that municipalities have taken the lead in global climate change mitigation efforts (e.g., Bulkeley and Betsill 2003, 2013; Gore 2010).

Although a limited number of analyses examine the effect of participation in climate change networks (e.g. Krause 2012), the mechanisms through which signing intergovernmental agreements is presumed to cause cities to adopt climate change policy are rarely spelled out explicitly. However, there is a common causal mechanism that can be inferred from this

literature: participation confers selective incentives (Olson 1965), either informational or access to resources. This hypothesis includes a crucial assumption that creating inventories, plans and strategies (the primary objects of such intergovernmental agreements) actually lead to the development of concrete policy measures.[27]

First, intergovernmental negotiations and agreements are thought to create normative frameworks and networks through which "leaders" can share knowledge, strategies, and success stories. Through these networks, cities observe that other cities have adopted climate change policy. By signing intergovernmental agreements and participating in interurban networks they learn from the experiences of other cities and therefore are more likely to adopt climate change policy at home. Cities might also receive more tangible selective incentives such as technical assistance or financial resources that would not otherwise be available. For example, members of the FCM Partners for Climate Protection program have access to resources such as climate action plan templates and reports of best practices (ICLEI 2015). These resources lower financial and technical barriers to the development of climate change strategies, which in turn may lead municipalities to create more and higher impact climate change policy.

H8: Cities that participate in interurban climate change networks and sign

intergovernmental climate change agreements are more likely to adopt climate policy.

Multiple pieces of evidence are necessary to affirm this hypothesis. First we must observe positive correlation between participation in climate change networks and agreements (including fulfilment of commitments) and climate policy adoption. However, this evidence is not sufficient

---

[27] As noted in Chapter 1, for the purposes of this dissertation planning documents such as climate change action plans are not counted as policy.

to confirm this hypothesis because it does not indicate *how* cities participate. Further evidence

that these networks provide selective incentives is needed, as well as evidence that

representatives of cities access those selective incentives. This evidence could include

observations that representatives attend conferences and meetings, access reports, receive

technical assistance and receive grants or loans. We should also observe that non-members do

not access these resources.

2.2.3.3   Municipal Electoral Systems

It could also be that local political institutions can explain municipal climate change

policy. Specifically, the electoral system used in each city to select councillors may influence the

likelihood that climate policy will be adopted. In Canada there are two principal municipal

electoral systems: at-large (block voting), and wards (single member plurality). At-large systems

are used exclusively in British Columbia, with ward systems in place in all other jurisdictions.

Ward systems closely resemble the electoral system in place at the provincial and federal levels

in Canada: the candidate who receives the most votes in a geographically defined district is

elected to Council.[28] In contrast, in the at-large system, there are no districts and voters may

select as many candidates as there are positions (i.e., if there are ten seats on Council, each voter

may select up to ten candidates). The candidates with the most votes are elected to Council (i.e.,

if there are there are ten Council positions, the ten candidates receiving the most votes are

elected). In both of these systems, the mayor is elected at-large.

---

[28] A very small number of municipalities use a multi-member ward system. Although the technicalities of electoral success vary slightly between single member plurality and multi-member plurality, the relevant features, namely the fear of parochialism and fragmentation due to geographically determined electoral districts, are identical.

Existing literature finds mixed evidence of the effect of municipal electoral systems on policy output. Lineberry and Fowler (1967) find that reformed institutions, of which at-large electoral systems are one component, promote higher levels of taxation and expenditure. In contrast, Morgan and Pelissero (1980) find that such institutions have no effect on municipal fiscal behaviour. Similarly, Feiock and West (1993) find no effect of municipal electoral systems (the use of district-based electoral systems) on the adoption of curb-side recycling programs. However, Feiock and Clingermayer (1986) find some support for the claim that ward-based electoral systems increase the likelihood of the adoption of economic development policies that concentrate benefits in particular geographic areas of the city.

In this dissertation, I draw on these previous studies to develop two hypotheses about the potential effect of municipal electoral systems on the adoption of local climate policy. The independent variable here is dichotomous: either a city uses the at-large system or it does not. However, there are two potential mechanisms through which electoral systems could influence the adoption of climate change policies. First, ward systems reward candidates who cater to geographically concentrated groups (Feiock and Clingermayer 1986). The logic is that ward-based politics creates opportunities for "credit claiming" (see Mayhew 1974; Weaver 1986). In line with this argument, critics of the at-large voting system argue that it "dilutes the voting power of geographically-clustered interests, particularly those of racial and ethnic minorities" (Feiock and Clingermayer 1986, 214). Instead, "at-large representation [may] work to the advantage of functionally-defined interests" (Feiock and Clingermayer 1986, 214), such as environmentalism.

Because citizens who care about the environment are not geographically concentrated and candidates in at-large systems do not rely on geographically concentrated groups of voters,

environmentalist candidates may therefore bring together constituencies based on issues such as the environment. As a result, we should expect that candidates who prioritize the environment are more likely to be elected in at-large systems than in ward systems, and it is this presence of environmentalists on Council that leads to the adoption of climate change policy.

H9a: At-large systems lead to the election of more environmentalist councillors who in turn cause the city to adopt more climate change policy.

There are three empirical predictions of this hypothesis. First, because the logic of this hypothesis is based on the presence of environmentalists in elected office, we should observe that in *all* cities, regardless of electoral system, environmentalist councillors are active participants in the adoption of climate change policy. Second, if this hypothesis holds, we should observe that at-large systems produce more environmentalist councillors than ward systems. Third, we should observe that cities with ward systems have less climate policy than cities with at-large systems.

The second mechanism through which electoral systems could affect climate policy adoption draws on the reform era idea, formulated by Banfield and Wilson (1963) as the "ethos theory", that at-large systems encourage municipal governments to consider the public interest, specifically, the interest of the city "as a whole" (Lineberry and Fowler 1967, 708). Through the ethos theory mechanism, at-large systems increase the likelihood of climate policy adoption because climate change is a broad issue that affects "the city as a whole" rather than particularized interests. Using this logic, the effect of the electoral system is not due to councillors' pre-existing commitments to the environment or other issues, but rather to the way in which the electoral system shapes their electoral interests once they are elected. In particular, councillors in an at-large system are thought to provide city-wide representation and have

incentives to consider issues that would not be salient in any particular ward (e.g., Amy 2000).

Regardless of whether councillors have prior environmentalist beliefs, because climate change is

an issue that transcends geographic boundaries and combatting it is in "the public interest",

climate change policy is more likely to be adopted in cities that use at-large systems than cities

that use ward systems. Both this logic and the logic of the previous mechanism were expressed

by a number of the municipal policymakers I interviewed for this dissertation.

> **H9b:** At-large electoral systems incentivize councillors to consider issues that affect the
> city as a whole and to make decisions to benefit the city as a whole. As a result, cities
> with at-large systems are more likely to adopt climate change policy.

Support for this hypothesis does not require any evidence of the presence of

environmentalists on Council. Rather, the hypothesis will be strengthened if we observe that,

compared to their counterparts from cities that use ward-based electoral systems councillors from

at-large systems are more likely to address issues city-wide issues – climate change or otherwise

– than those that primarily affect particular neighbourhoods. The hypothesis will also be

strengthened if climate change is more often seen as an issue that is within municipal jurisdiction

in cities with at-large electoral systems, or if policymakers from cities with ward systems dismiss

climate change as outside municipal jurisdiction. We should also observe that cities with at-large

electoral systems adopt more climate policy than cities with ward systems.

2.2.3.4   Federalism and Provincial Dominance

A final alternative explanation is that Canada's federal system could produce the

variation in climate change policy among municipalities. Constitutionally, cities fall under the

auspices of provincial jurisdiction. In other words, they have no constitutional authority of their

own. Thus, all of the powers they exercise are the result of provincial delegation and are subject

to approval by provincial governments. All Canadian provinces have established Municipal Acts that delegate powers to municipalities, and some have enacted specific legislation to govern the responsibilities of the largest cities. For example, Vancouver, Toronto and Winnipeg each have their own "charter" which sets out their responsibilities and rights. A different piece of legislation governs the rest of the municipalities in each of their respective provinces. The content of the governing legislation – both city-specific charters and the general municipal acts – also differs by province. This legislation may prevent municipalities from taking certain actions (e.g., imposing an income tax), or require them to take certain actions (e.g., uphold specific water purification standards).

Provincial governments also control the physical jurisdiction of cities – their boundaries, whether they amalgamate, and whether they are part of regional or multi-tier governments. Whether a municipal government is part of a regional government – and the provincial rules governing that regional government – may affect the extent to which it has jurisdiction in policy areas relevant to greenhouse gas reductions and the types of policy instruments that it can employ. Solid waste provides a good example of the potential jurisdictional complexity. In Toronto and Winnipeg, single-tier municipalities, the city controls all aspects of solid waste collection and disposal. In Brampton, Ontario, collection and disposal is controlled by Peel Region, the upper-tier municipality. Vancouver, like the other member municipalities of the Metro Vancouver regional government, controls its own solid waste collection. However, the City of Vancouver is the only member municipality that owns its own landfill; Metro Vancouver owns and operates most of the region's landfills.

Variation in municipal climate policy across Canada may be a reflection of differences in provincial climate policy. Here the independent variable is provincial influence on municipal

policymaking. There are two mechanisms through which this variable could operate. First, provinces may impose legally binding standards that municipalities must achieve. The level of these standards – the degree to which they require the adoption of high impact climate policies may vary across provinces. The observed variation in municipal climate policy may simply reflect differences in provincial mandates.

> **H10a:** Variation in municipal climate policy is the result of variation in the minimum standards set by provincial governments.

If this mechanism explains variation in climate policy across Canadian cities, we must also observe that there is variation in the provinces' minimum climate policy requirements for municipalities. Further, a finding that municipalities' climate policy reflects the minimum requirements set out by their respective provincial governments would support this hypothesis, but not confirm it. If a municipality exceeds provincial requirements, challenges provincial restrictions on local climate policy or addresses climate issues that are not regulated by the province, the hypothesis will be weakened.

A second mechanism through which provincial authority could lead to variation in municipal climate policy is variation in the degree to which provincial governments encourage local climate policy adopt climate policy and the level of restriction provinces place on the climate policies that local governments are permitted to adopt. Provincial governments provide legislative guidelines for municipalities that provide more or less freedom for independent policy action by city governments over and above minimum standards. Local governments may take advantage of more or less generous subsidies and other provincial resources, or they may be prevented from adopting desired policies by restrictive provincial legislation. While for the first mechanism, above, municipalities must be forced to take action on climate change, for this

mechanism variation is the result of non-regulatory incentives provided by the Province to encourage local climate policy adoption and from differences in the *maximum* levels of municipal climate policy permitted by provincial governments. Cities take advantage of the varying incentives and legislative space provided by the provincial government to adopt climate policy.

> **H10b:** Variation in municipal climate policy is the result of differences in the extent to which provincial governments permit municipal climate policy as well as the non-regulatory incentives they provide.

If this is the explanation of variation in climate policy across Canadian cities, we should observe that provinces provide differing types and levels of non-regulatory incentives to municipal governments to encourage climate policy adoption. Cities should also be observed to take advantage of these subsidies and other incentives. These observations will strengthen the hypothesis. An observation that cities have unsuccessfully sought to challenge provincial restrictions on municipal climate policy would strengthen the hypothesis because it indicates that local governments wish to exceed provincial maximums but have been unable to do so. The converse, that municipalities have successfully challenged provincial restrictions, would weaken the hypothesis because it indicates that the maximum standards set by the provincial government are not the source of variation.

2.3 Conclusion

This chapter has provided a series of testable hypotheses and empirical predictions that will allow me to adjudicate, in the remaining chapters of the dissertation, between the primary argument of this dissertation and alternative explanations of variation in climate policy across Canadian cities. The hypotheses are summarized in Table 2.1, below. These are not all

necessarily mutually exclusive explanations, but if any is operational we should observe evidence that corresponds to its empirical predictions even if there is evidence that others are also present. However, I expect that we will observe evidence to support the claims that a) political economy factors depress municipal climate policy adoption, and b) variation in the quantity and likely impact of climate change policy adopted by Canada's cities occurs primarily because only some have independent environmental departments.

Table 2.1 Summary of Independent Variables and Hypotheses

	Political Economy Factors
H1	*Independent Variable: Level of opposition from economic actors* Explicit pressure from economic actors decreases the likelihood that cities will adopt climate policy.
H2	*Independent Variable: Level of policymakers' support for economic growth* Implicit pressure from economic actors decreases the likelihood that cities will adopt climate policy.
H3	*Independent Variable: Level of public support* Adoption of local climate policy is a function of public support. Because the benefits of climate policy are distributed diffusely, strong support for municipal climate policy is unlikely.
H4	*Independent Variable: Level of public attention* Adoption of local climate policy is a function of public attention to the issue. When and where the public is paying more attention to climate change, local governments will be more likely to adopt climate policy.
H5	*Independent Variable: Expected cost to local government* Policymakers seek to minimize costs to local government. High impact climate policy is likely to lead to net costs to the local government, leading to limited adoption of climate policy.
	Primary Explanation of Variation
H6	*Independent Variable: Independence of environment departments* Cities with independent environment departments are more likely to have high impact climate policy as these departments provide resources – primarily information – to support policy adoption.
	Alternative Hypotheses
H7	*Independent Variable: Presence of policy champions* Cities with politicians and staff who are personally committed to climate change mitigation are more likely to adopt climate change policy as these individuals act to facilitate policy adoption.
H8	*Independent Variable: Participation in climate change networks* Cities that participate in intergovernmental climate change networks are more likely to adopt climate policy because these networks provide selective incentives, including opportunities to learn from peers as well as technical and financial resources.
H9a	*Independent Variable: Electoral system* At-large systems increase the likelihood that environmentalists will be elected to Council and thus facilitate the adoption of climate policy.
H9b	*Independent Variable: Electoral system* At-large systems increase the probability that councillors will prioritize global and city-wide issues that are not focused on geographical constituencies. This will increase the likelihood of climate policy adoption.
H10a	*Independent Variable: Provincial influence* Local climate change policy is a function of provincial mandates. Variation in municipal climate policy reflects variation in the minimum standards set by the Province.
H10b	*Independent Variable: Provincial influence* Local climate change policy is a function of the limits provincial governments impose on municipal governments, and the non-regulatory incentives they provide.

Chapter 3: Research Design and Methodology

In this dissertation I answer a specific research question: What explains variation in the adoption of local climate policy among large Canadian cities? The theory I develop in answer to this question was explored in detail in Chapter 2. In this chapter I describe the methodology used to test the theory and hypotheses presented in the previous chapter, and outline the data collection and case selection procedures.

3.1 Testing the Theory

In Chapter 2 I detailed a new theory of climate change policy adoption in Canadian municipalities. Here I outline the methods and approaches I use to test that theory in the rest of the dissertation. The primary source of analytical leverage used here is process tracing (George and Bennett 2005). From a methodological perspective, this dissertation fills a gap in the local climate change literature which is dominated by single case studies and large-N statistical analyses. By using systematic and detailed process tracing in a small number of cases, this dissertation answers calls for rigorous research design in the study of urban politics (e.g., Denters and Mossberger 2006), and provides analysis that is sensitive to the contexts of each jurisdiction while still seeking generalizable conclusions. While the scale of generalization for such a study is less than that of large-N studies, this dissertation provides concrete conclusions about *how* various explanatory factors influence the creation of climate policy by local governments.

Although there has been a recent trend towards middle-level theorizing, much of the urban governance and local climate change policy literature has employed a single case study research design (see Gissendanner 2003 for a review of some of the resulting methodological challenges). In the Canadian context, much of the comparative urban research has been published in the form of edited volumes that bring together multiple single case studies, often by

different authors and without comprehensive, theory-driven analysis of the comparative results (Young and Horak 2012; Sancton and Young 2009). In general, work in these fields has tended to lack methodological justification for research design, and the largely atheoretical analysis means that the generalizability of the findings is unclear.

There is a growing body of quantitative literature on the subject of local climate change policy, mostly written in the US context (e.g., Lubell et al. 2010; Krause 2011; Wang et al. 2013).[29] This work has emphasized causal explanations of climate policy (Feiock et al. 2014; Lubell et al. 2010; Krause 2010, 2011a, 2011b; Robinson and Gore 2005), but by the nature of the methodology, does not specifically examine the causal logic that links the dependent and independent variables in their regression analyses. Such studies tend not to differentiate between small and large municipalities, focusing instead on the fact that a certain number of jurisdictions have joined intergovernmental networks or have implemented a policy.

There have been calls for more theoretically-informed small-N comparison in the urban politics literature (e.g., Denters and Mossberger 2006), but few have taken up the challenge. This is a well-established method in the comparative politics literature, although it is usually applied at the national level, employing comparisons among states. There has been some relatively recent comparative work on public policy at the at the subnational (state or provincial) level (e.g., Boychuk 1998; Rabe 2004; Paquet 2013), but scholars who identify primarily as comparativists rarely study local government (but see Ziblatt 2008). While this dissertation does not employ an explicit comparative methodology, the study of multiple cities and multiple policy areas allows for some implicit comparisons. Moreover, empirical predictions of hypotheses

---

[29] But see Robinson and Gore (2005) on Canada; Tvinnereim and Dolšak (2013) on Europe.

(discussed above) may involve evidence of a comparative nature – for example, that cities with significant climate policy also have certain characteristics.

3.1.1   Process Tracing

Using within-case analysis, or process tracing, researchers draw conclusions about the operation of causal mechanisms by comparing the empirical predictions of hypotheses against evidence from real-life cases (Bennett 2010). Causal mechanisms are "the intervening processes through which causes exert their effects" (Goertz and Mahoney 2012, 100). Prior to testing, the researcher theorizes what should be observed in the cases if the hypothesis is correct. Then, the researcher conducts an in-depth examination of one or several cases. Depending on the nature of the prediction, in other words, on the type and difficulty of the process tracing test, observing or failing to observe the expected evidence will strengthen or weaken the hypothesis to varying degrees.[30]

For example, in Chapter 2 I hypothesize that because policymakers prioritize sound fiscal management, they are unlikely to adopt high impact climate policy that imposes a net cost on the local government. There are three empirical predictions of this hypothesis. First, we should observe that policymakers perceive fiscal responsibility to be central to their role. Second, we should observe that climate policies are adopted when they do not impose net costs the local government, and not adopted when net costs are expected. Third, we should observe that discussion of climate policy proposals among policymakers focuses on their fiscal implications. As discussed below, these are hoop tests. We strongly expect to observe this evidence if the hypothesis is true, but there is also a fairly high probability that we will observe this evidence

---

[30] See section 3.1.1.1 below for a detailed examination of process tracing tests and their implications.

even if the hypothesis is not correct. In other words, there might be other factors that cause the same empirical outcomes. Thus, observing this evidence strengthens our confidence in the hypothesis, but *not* observing it greatly weakens our confidence in the hypothesis.

Rigorous and systematic use of process tracing involves examining cases in depth and determining whether the evidence is consistent with the expectations of not only the primary hypothesis, but also alternative hypotheses. In this dissertation I test whether the evidence is consistent with the primary hypotheses regarding political economy factors and independent environment departments. However, I also consider whether it is consistent with the operation of a number of alternative hypotheses about the role of policy champions, local government participation in inter-urban networks, municipal electoral systems, and provincial influence.

Unlike traditional comparative methodologies that rely on correlational analysis, including sophisticated correlational analysis in the case of regression and other large-N strategies, process tracing does not rely on controlling possible confounding factors through careful structured case comparisons. As illustrated above, the casual leverage of the method arises from the examination of evidence from a single case relative to the empirical predictions of the hypothesized mechanism. Beach and Pedersen (2013) explain that for analyses based on correlational logic "the gold standard of scientific research is the experimental design" (Beach and Pedersen 2013, 78). However, rather than trying to approximate a medical trial, scholars who employ process tracing look to the model of a legal trial. Researchers seek to demonstrate not the magnitude of the effect resulting from a causal factor, but *how* the causal factor produces the effect: in other words, the causal mechanism. Additionally, as in a legal trial, pieces of evidence may shed light on different parts of the causal mechanism, some pieces of evidence are more convincing than others, and we may be convinced of a hypothesis even if we do not observe

85

evidence of *all* of the empirical predictions of a hypothesis. Moreover, as Bennett (2015) argues, as in a court case we might be convinced by an accumulation of relatively weak evidence that points in the same direction.[31]

There are two important advantages to process tracing's mechanism-level approach: it mitigates the risk that the findings are the result of chance or spuriousness, and allows us to distinguish between different ways that independent variables influence outcomes. Correlational analysis, including sophisticated correlational analysis in the case of regression and other large-N strategies, tell us whether changes in the value of the independent variables are associated with changes in the value of the dependent variables. However, while the results of such methods are often strong indicators of causal relationships, there is a risk that the observed covariation is the result either of chance (which is why we are concerned about statistical significance) or some other factor that determines the outcome of both independent and dependent variables (spuriousness). Through in-depth examination of cases at the mechanism-level, process tracing provides independent leverage to overcome these problems. Moreover, even if we are convinced that the observed relationship between the independent and dependent variables is causal, there may be different pathways through which the hypothesized independent variable affects the outcome. The detailed case-based analysis of process tracing allows us to distinguish between alternative causal mechanisms.

---

[31] Specifically, he argues that straw-in-the-wind tests, and weak smoking gun and hoop tests are akin to "circumstantial evidence" in a legal trial. Using Bayesian logic, discussed in more detail below, he argues that an accumulation of such tests can greatly strengthen our confidence in a hypothesis because "it is unlikely that all, or a high proportion of independent weak tests would point in the same direction unless a theory is true" (Bennett 2015, 293).

For example, one frequently proposed explanation of the City of Vancouver's success in adopting climate policy is that councillors are elected at-large; that is, they do not represent geographically defined constituencies. While it is true that Vancouver has adopted more high impact climate policy than many other Canadian cities that employ (geographically-based) ward systems, there are two possible causal mechanisms that might produce this outcome. It could be that Councils with more environmentalist councillors adopt more climate policy. If this is the case, at-large systems might result in the election of more environmentalist councillors than ward systems because they provide an advantage to environmentalist candidates as citizens who espouse environmentalist beliefs are likely not to be concentrated in particular geographic areas of the city. An alternative causal mechanism provides a different explanation of why at-large systems may increase the probability that local governments adopt climate policy. This second hypothesis suggests that at-large systems encourage all councillors, regardless of whether they identify as environmentalists, to consider and debate issues that affect the city as a whole. Because they are not dependent on voters in a particular geographic constituency, councillors are less likely to object to policies that are expected to benefit the city as a whole but may impose costs on a particular neighbourhood. As a result, climate change is more likely to be adopted in cities that use at-large electoral systems even if there are not many environmentalists on Council.

Process tracing is particularly useful for teasing out both *whether* there is a causal effect of municipal electoral systems on local climate policy outcomes, and if so, precisely *how* that causal process operates. Here, the independent variable is the same for both of the hypotheses and process tracing will allow me to determine whether the observed relationship is due to chance, spuriousness or an actual causal relationship that could take two forms. Examining causal processes, and not just the relationship between independent and dependent variables,

87

increases both our understanding of phenomena of interest (in this case, the adoption of climate

change policy by local governments) and potentially increases our ability to influence outcomes

based on normative criteria (such as mitigating global climate change).

3.1.1.1   Process Tracing Tests

In the world of process tracing, Bennett argues, "some types of evidence have far more

probative value than others" (Bennett 2010, 219) in terms of leading researchers to valid

explanations. Each piece of evidence can strengthen or weaken a hypothesis. Here, following

Collier, Brady and Seawright (2010), by "piece of evidence" I mean a causal-process observation

(CPO): "an insight or piece of data that provides information about context or mechanism"

(Collier, Brady and Seawright 2010, 184). Unlike, a "data-set observation" – all of the scores for

a given case in a quantitative study, or a single row in a data set – that provide causal leverage

through comparison to other observations via statistical testing, a CPO provides leverage through

comparison to the theoretically determined empirical predictions of a hypothesis. In other words,

CPOs are the foundation of the process tracing approach to causal inference.[32]

Building on the work of Van Evera (1997) and Bennett (2010), David Collier (2011)

presents a matrix of process-tracing tests that allow researchers to specify how the evidence

uncovered in any case (in other words, the CPOs) affects the strength of their hypothesized

mechanisms and that of alternative hypotheses. The process tracing tests are based on the

---

[32] This method of examining particular processes for the purpose of identifying the presence or absence of evidence consistent with the empirical predictions of a hypothesis and its mechanisms involves a different means of assessing causal inference than that used in large-N statistical analyses. Therefore, although the evidence used for process tracing is usually drawn from a small number of cases – for this dissertation, four policy areas in each of four cities – this method does not encounter the "degrees of freedom" problem often cited as an issue in small-N studies, where it is said that the number of explanatory variables cannot outnumber the cases considered. This stands in stark contrast to the position taken by King, Keohane and Verba (1994) who argue that "the differences between quantitative and qualitative traditions are only stylistic and are methodologically and substantively unimportant" (King et al. 1994, 4).

premise that each causal-process observation (i.e., each piece of evidence) may or may not be sufficient for affirming the hypothesized causal inference, and may or may not be necessary for affirming the hypothesized causal inference.[33] This creates four possible outcomes, or types of tests, each of which is given a stylized name: neither necessary nor sufficient (straw-in-the-wind), necessary but not sufficient (hoop), not necessary but sufficient (smoking-gun), and both necessary and sufficient (doubly decisive).

Another way to think about process tracing tests is to use Bayesian logic. Central to this approach is the comparison of the probability that we will observe a certain piece of evidence (CPO) if a hypothesis is true with the probability that we will observe that same piece of evidence if the hypothesis is not true (Humphreys and Jacobs 2015; Bennett 2015; Beach and Pedersen 2013; Rohlfing 2012). Comparing these two probabilities allows us to distinguish between test types and to better understand the inferential implications of each type.[34] Bennett (2015) argues that exact probabilities are difficult to estimate because there is relatively little prior data upon which to base them (compared to medical trials, for example), and because of differences between cases. As a result estimates will always be subjective (Bennett 2015, 280). However, these difficulties do not change the magnitude or relationship between the probabilities that characterize each type of process tracing test.

---

[33] This corresponds to a deterministic approach to causal inference, which leads to researchers "confirming" or "eliminating" hypotheses. However, this strict interpretation is not necessary. For example, Fairfield (2013), following Collier (2011), notes that "in practice, the terms necessary and sufficient are heuristics that need not be interpreted rigidly" (Fairfield 2013, 55). This means that hypotheses will be strongly affirmed or greatly weakened, rather than confirmed or eliminated. The implications of this more probabilistic approach to causal inference is discussed more fully below.

[34] The comparison of these probabilities is also referred to as the likelihood ratio. Formally, the probability of observing the evidence conditional on the hypothesis being incorrect, divided by the probability of observing the evidence conditional on the hypothesis being correct.

For hoop tests, we are very likely to observe evidence consistent with the empirical predictions of the hypothesis if the hypothesis is true, but we are almost as likely to observe the same evidence if the hypothesis is not true. Beach and Pedersen (2013) would say that hoop tests have "low uniqueness" (Beach and Pedersen 2013, 102-103).[35] For example, in Chapter 2 I hypothesize that economic actors have implicit influence of climate change policy decisions at the municipal level, in part by means of policymakers' prioritization of economic growth (H2). One of the empirical predictions of this hypothesis is that policymakers will demonstrate concern about the impact of climate policy on local business and investment. Given the positive associations with economic growth in contemporary Canadian society, it is reasonable to expect that policymakers will be willing to voice this publicly. Consequently, we are highly likely to observe that policymakers say that they are concerned about the impact of climate policy on economic growth – in the public domain or in personal interviews – if the hypothesis is true. However, it also means that it is likely that we will observe such statements even if the hypothesis is not true. Policymakers might be concerned about the impact of climate policy on economic growth (and make statements to that effect) for reasons other than business influence, or they might perceive an electoral advantage to saying they are concerned even if they are not.

Because we are very likely to find that policymakers do, in fact, say publicly that they are concerned about the impact of climate policy on economic growth if there is implicit business

---

[35] Beach and Pedersen (2013) characterize process tracing tests along two dimensions: uniqueness and certainty. Uniqueness is drawn from Van Evera's (1997) term "unique predictions" which he used to describe the need for creating empirical predictions that do not overlap with one another. For Beach and Pedersen, uniqueness corresponds to the likelihood ratio (see footnote 31, above), where the most unique predictions maximize the likelihood of observing the evidence conditional on the hypothesis being correct relative to the probability of observing the evidence conditional on the hypothesis being correct. The other continuous dimension, certainty, is based on Van Evera's (1997) term "certain prediction" indicating that the ideal empirical prediction is one for which the evidence must be observed, or else the hypothesis is eliminated. In this account, in addition to low uniqueness, hoop tests have high certainty. (Beach and Pedersen 2013, 101-105)

influence, this test only slightly strengthens our confidence in the hypothesis. However, given that we are also likely to make the same observation if there is no implicit business influence, *not* observing such statements would be highly surprising and would greatly weaken our confidence in the hypothesis.

The hoop test described above is an "easy" hoop test – because the difference in likelihood of observing the evidence if the hypothesis is correct and if it is incorrect is relatively small. As that difference increases, that is, as the likelihood of observing the evidence if the hypothesis is incorrect becomes smaller, the harder the test. The harder the test, the more the hypothesis will be weakened if we do not observe evidence consistent with its empirical predictions, and the more it will be strengthened if we do observe such evidence. The inferential outcomes remain asymmetrical. For a hard hoop test observing evidence consistent with the hypothesis increases our confidence in the hypothesis more than for an easy hoop test, but not observing such evidence undercuts the hypothesis *much more* than for an easy hoop test.[36]

An example of a hard hoop test can be found in one of the empirical predictions of the policy champions hypothesis: bureaucratic champions promote climate policy throughout its development and adoption. If it is true that climate policy is adopted because of the influence of particular individuals within the local government who are personally committed to climate

---

[36] This can be illustrated numerically. For an easy test, we might say that the probability of observing evidence consistent with the empirical predictions of a hypothesis is 0.9 if the hypothesis is true and 0.8 if the hypothesis is not true. This means that the probability of *not* observing that evidence is 0.1 if the hypothesis is true and 0.2 if the hypothesis is false. Since not seeing the evidence is twice as likely if the hypothesis is false than if it is true, this would have a large negative effect on our confidence in the hypothesis. For a hard hoop test, we might say that the probability of observing evidence consistent with the empirical predictions of a hypothesis is still 0.9 if the hypothesis is true but it is 0.5 if the hypothesis is not true. In other words we are 80% more likely to see the evidence if the hypothesis is true than if it is false. Likewise, we are five times more likely not to see the evidence if the hypothesis is false than if it is true. In other words, observing evidence consistent with the hypothesis increases our confidence in the hypothesis more than for an easy hoop test, but not observing such evidence undercuts the hypothesis much more than for an easy hoop test.

change action, it seems very likely that we will observe evidence consistent with this prediction. However, it seems much less likely that we would observe this evidence if that hypothesis is not true. There are certainly other reasons that we might expect to see such evidence – for example, such committed individuals might tend to hold positions in which their job description (rather than their personal commitment) requires them to promote climate policy – but the probability of this, relative to the original hypothesis is likely lower.

The relationship between the probabilities of observing evidence consistent with the predictions of a hypothesis if the hypothesis is true and if it is not true are similar for smoking gun tests as for hoop tests: we are slightly more likely to observe the evidence if the hypothesis is correct than if it is incorrect. Because it is unlikely that we observe the evidence if the hypothesis is incorrect, not observing it only slightly weakens our confidence in that hypothesis. However, because it is unlikely to observe such evidence if the hypothesis is correct, finding that evidence strongly increases our confidence in the hypothesis. For example, if we are investigating a murder, finding a smoking gun in a suspect's hands would strongly indicate guilt. However, while not finding the gun would weaken our confidence that the suspect is guilty, it does not necessarily indicate innocence. As for hoop tests, there can be easy smoking gun tests and hard smoking gun tests. The test gets harder as the difference increases between the probability of observing evidence consistent with the hypothesis when that hypothesis is correct and when it is incorrect. Passing a hard smoking gun test increases our confidence in the hypothesis more than

passing an easy smoking gun test, and failing an easy smoking gun test decreases our confidence less than failing a hard test.[37]

In contrast, for straw-in-the-wind tests we have a modest likelihood of observing the evidence whether or not the hypothesis is correct. For this test, it is not surprising to observe the evidence whether or not the hypothesis is correct, but is likewise unsurprising to *fail* to observe the evidence in either scenario. Thus, observing the evidence slightly increases our confidence in the hypothesis, and failing to observe the evidence slightly decreases our confidence.

Zaks (2011) argues that the term "straw-in-the-wind" underplays the strength of this type of process tracing test and suggests that the term "leveraging test" should be used instead. She argues that such tests provide "leverage in favor" or "leverage against" a hypothesis – in other words, observations "either provide leverage in favor of a given hypothesis, or… leverage against a hypothesis" (Zaks 2011, 19). As noted above, Bennett (2015) makes a similar argument that despite the minimal additional confidence that can be derived from any single straw-in-the-wind test, we can be more certain of the operation of the hypothesis if there is an accumulation of straw-in-the-wing tests all (or mostly) pointing in the same direction (Bennett 2015, 293).

Of note, unlike for hoop and smoking gun tests, for a straw-in-the-wind test the combination of the likelihood of observing the evidence if the hypothesis is correct and the likelihood of observing the evidence if the hypothesis is incorrect produces symmetrical inferential outcomes. In other words, our confidence in the hypothesis increases from observing the evidence to the same degree that our confidence would decrease from not observing the

---

[37] These conclusions are premised on the low likelihood of encountering people holding smoking guns. As Bennett (2015) notes, finding a smoking gun in the hands of a suspect "is not as definitive when the murder was committed at a shooting range" (Bennett 2015, 286). As the probability of observing the evidence increases (when the hypothesis is correct and when it is incorrect), smoking gun tests shade into hoop tests.

evidence. While there cannot be "hard" or "easy" straw-in-the-wind tests, such tests become more discriminating as the difference grows between the probability of observing the evidence if the hypothesis is true and if it is false. The larger the difference in probability, the more confidence we can have in the hypothesis from observing the evidence and the more the hypothesis will be weakened if we do not observe the evidence.

Doubly decisive tests also produce symmetrical inferential outcomes, but on the other end of the spectrum. For hard doubly decisive test we are very likely to observe the evidence if the hypothesis is correct and very unlikely to observe the evidence if it is incorrect. Accordingly, if we observe the evidence our confidence in the hypothesis increases greatly – Van Evera (1997) would say that such evidence "confirms" the hypothesis – and not observing such evidence greatly weakens our confidence in the hypothesis. As the difference decreases between the probability of observing the evidence if the hypothesis is correct and if it is not, doubly decisive tests become easier and approach highly discriminating straw-in-the-wind tests.

The process tracing tests and their implications for causal inference are presented in Table 3.1, below. Although the table is broadly based on Collier (2011), I add a probabilistic interpretation of causal inference (as discussed above) and include the relative likelihood of observing the evidence. Note that the terms "necessary" and "sufficient", following Fairfield (2013), are interpreted loosely.

Throughout this dissertation, I adjudicate between the primary theory and alternative explanations by comparing my observations of the policy process in each of the cities and policy areas to the empirical predictions of what should be observed if the hypotheses are correct. Despite the variety of tests and potential outcomes presented here, in the empirical chapters of this dissertation, Chapters 4 to 7, the majority of the tests are easy hoop tests. While this leads to

less conclusive results than would be the case with harder hoop tests, doubly-decisive tests, or a combination of hoop tests and smoking-gun tests, many positive easy hoop and straw-in-the-wind tests can lead to an accumulation of causal power (Bennett 2015). At the end of each of the case study chapters I present a table to summarize the process tracing tests, key pieces of evidence and the degree to which the hypothesis is strengthened or weakened as a result. In the section below I outline the data collection procedures and data sources from which I make empirical observations in those chapters.

Table 3.1 Implications of Process Tracing Tests for Causal Inference

Sufficient for
Affirming Causal Inference

	High	
	Hoop	**Doubly Decisive**
Necessary for Affirming Causal Inference *Low*	**Very high likelihood** of observing evidence if hypothesis is correct; **High likelihood** of observing evidence if hypothesis is incorrect	**Very high likelihood** of observing evidence if hypothesis is correct; **Very low likelihood** of observing evidence if hypothesis is incorrect
	Passing slightly affirms hypothesis; **Failing** greatly weakens hypothesis	**Passing** strongly affirms hypothesis; **Failing** greatly weakens hypothesis
	Straw-in-the-Wind	**Smoking-Gun** *High*
	Modest likelihood of observing evidence if hypothesis is correct; **Modest likelihood** of observing evidence if hypothesis is incorrect	**Low likelihood** of observing evidence if hypothesis is correct; **Very low likelihood** of observing evidence if hypothesis is incorrect
	Passing slightly affirms hypothesis; **Failing** slightly weakens hypothesis	**Passing** strongly affirms hypothesis; **Failing** slightly weakens hypothesis

Low

Source: Adapted from Collier 2011, 825.

3.1.2   Data Collection

For this dissertation, I relied heavily on primary documents. I examined current and past policy documents – provincial statutes, municipal by-laws, municipal reporting to provincial governments, the agendas, minutes, transcripts, and records of decisions of Council and

committees, press releases, staff reports to Council, newspapers, official websites, and websites of commentators on municipal politics. Most of the primary sources I examined were in the public domain, as transparency and accountability norms have led to the public release of most documents of interest and many documents – including the text of bylaws and transcripts of Council meetings – are readily available online. I requested access to those sources not available through websites and was only successful in a limited number of instances.[38] I supplemented the primary document analysis with secondary sources, including monographs and graduate theses.

I also gathered data about municipal climate change policymaking through interviews with key informants in each of the four case-study cities. Over the course of nearly four years (August 2011 to February 2015), I conducted over 70 interviews in Vancouver, Toronto, Winnipeg and Brampton. Interview subjects included bureaucrats, politicians, environmental NGO activists, journalists, and business representatives.[39] Most interviews were conducted in person, at a place of the interviewee's choosing (often their office at city hall, but occasionally at a coffee shop, restaurant, community centre, or private home).

As outlined by Tansey (2007), these interviews allowed me to 1) appreciate how policy-makers perceive their constraints and the results of their decisions; 2) complement and corroborate evidence from documentary sources; 3) better understand the context and conditions of decision making in the jurisdictions; 4) identify new informants and documents; and 5) reconstruct the chronology of events. The causal-process observations – the data – gathered from these interviews take several forms, including specific quotations, paraphrased statements;

---

[38] Some of the documents I wanted to access did not exist (e.g., transcripts of committee meetings had not been recorded, annual reports had not been completed).

[39] See Appendix 1 for a full list of interview participants (as permitted by the University of British Columbia's Behavioural Research Ethics Board requirements)

impressions of attitudes or personal commitments; and chronologies of events. In the empirical

chapters (Chapters 4 to 7) I present this data in order to compare my causal-process observations

to the empirical predictions of the hypotheses presented in Chapter 2. Due to the fact that many

of the process tracing tests are easy hoop tests – the data, including quotations, may not be

surprising to readers. Rather, it would be surprising if I *did not* encounter such statements. As

noted above, Mahoney (2015) argues that easy hoop tests "make use of observations that are

ordinary, common, or expected" across all or many cases (Mahoney 2015, 208).

One potential complication of relying on interview data is that individuals' memory of

events may not be perfect or they may have incentives to portray events and decisions in

particular ways. In order to mitigate this problem, I followed the advice of Tiberghien (2002)

and Tansey (2007) to triangulate interview responses with written documents, where available,

and with the responses of other interviewees. I also actively considered, based on the criteria

outlined by Tansey, the potential interests and circumstances of the respondents that might have

influenced, consciously or unconsciously, the shape of their narrative (Tansey 2007, 767-768).

To choose interview participants I used non-probability sampling – in particular the

snowball method (Tansey 2007). The initial pool of participants helped me to identify others

who played important roles in the decision making processes, and in some cases provided

introductions. Although some scholars believe that probability sampling is the ideal means of

identifying interview subjects (Aberbach et al. 1975; Aberbach and Rockman 2002; Rivera et al.

2002; Tiberghien 2002), it is often either unrealistic or inappropriate means for qualitative

research – particularly for process tracing (Tansey 2007). While probability sampling would

make it more likely that the results would be representative of the larger population of

policymakers, I would risk not speaking to those people most knowledgeable and most involved

in the process. Since the goal of this dissertation is to examine the process of decision-making in particular instances, expertise and experience are much more valuable to me than representativeness or generalizability.

I designed the interview guide template along the lines of Zuckerman (1972) and Aberbach et al. (1975): using a semi-structured, open-ended style including broad questions aimed at exploring the subject in its entirety, and focused questions to elicit details. However, the specifics of the interview guide changed as I learned which questions were most effective in eliciting truthful and useful responses. As Zuckerman (1972) predicts, interviewees were far more responsive to questions that were obviously tailored to their particular expertise and experience. As a result, some of the questions were common across all respondents, but most of the questions were tailored to the particular individuals. These questions allowed respondents to talk about climate policy adoption in their city in their own words and in their own way. The questions ranged from broad inquiries about the city's climate policies to specific probes about the individual's personal involvement in a policy's development or the types of attitudes and comments made by particular groups or individuals during a consultation process.

There is a debate in the literature about whether recording interviews is desirable. Some say that recording can affect interviewees' responses (Tiberghien 2002; Aldrich 2009). Others suggest that elites are often comfortable with formal procedures and making recorded statements (Zuckerman 1972; Aberbach et al. 1975). There is a trade-off, as noted by Emerson et al. (2001), between the accuracy of recording devices (and even note-taking during the interview), and the familiarity and trust of an unrecorded, conversational interview.

For the most part, I recorded the interviews, as I did not expect the responses of municipal staff or politicians to be affected by the recording process. As Zuckerman (1972)

suggests, in most cases recording actually made the interview more natural because I was able to pay attention to the flow of the conversation rather than frantically scribbling notes. In a few instances there were technical problems with recording – mostly having to do with equipment errors on my part. Only a few of the respondents declined to be recorded.

The third type of data collected for this dissertation comes from analysis of Internet search trends, as described in Chapter 2. Following Ripberger (2011) and Mellon (2013, 2014), I measure public attention to climate change, the independent variable for Hypothesis 4, using Google Trends. This is a software tool that measures Internet search patterns. Google Trends has been used by a number of authors studying a range of topics, including public health (Brownstein et al. 2009; Reiss and Brownstein 2010), American politics (Reilly et al. 2012; Sinclair and Wray 2015; Swearingen and Ripberger 2014; Weeks and Southwell 2010), agenda-setting (Granka 2010; Scharkow and Vogelgesang 2011); and environmental politics (Kahn and Kotchen 2010; Mccallum and Bury 2013; Oltra 2011).

The Google Trends website (Google 2004) provides aggregate Internet search data for the terms and geographic areas specified by the user. The data is aggregated daily for periods up to 90 days, or weekly for longer periods. Absolute search volumes are not available; rather, the searches are normalized and scaled: they are indexed to the highest observed volume and with the maximum set to 100. The program allows for comparisons of search volumes for different search terms or for the comparison of particular search terms across multiple geographic areas. For Canada, the smallest geographic unit of aggregation available is the province, but as part of the results output the program compares regional search volume within the province.

In response to concern about the representativeness of analysis of Internet searches, Mellon (2014) tests re-weighted individual level Gallup most important problem (MIP) data

against search trends generated by Google Trends to demonstrate that there is little likelihood of bias due to demographic differences between Internet and non-Internet users (Mellon 2014, 50). Moreover, Statistics Canada reports that "[i]n 2012, 83% of Canadian households had access to the Internet at home, compared with 79% in 2010" (Statistics Canada 2013). Although there is variation in home access to Internet across provinces and demographic groups in Canada, 58% of Canadians in the lowest income quartile reported having access to the Internet in their home (Statistics Canada 2013). If we add to this the broad availability of Internet services in public locations such as libraries, this suggests a very high level of internet penetration in Canada, and thus a low probability of bias due to demographic differences between users and non-users.

In terms of its use as a measure of issue salience, Mellon (2013, 2014) and Ripberger (2011) each provide evidence to demonstrate that Google Trends can provide a useful and valid measure of public attention that could supplement or replace the most common existing measures of public attention: media coverage and most important problem (MIP) surveys. Mellon (2014), following Wlezien (2005), allows for two conceptions of issue salience: either how important the issue is to individuals in the context of voting or other political decision-making, or how prominent the issue is in an individual's mind when they are asked to make a political decision. He argues that "[b]oth conceptualizations fit well with [Internet] search data, in that perceived issue importance is likely to have a strong effect on decisions about information seeking, and an issue must reach a certain level of prominence in a person's mind before they will search for information about it" (Mellon 2014, 46-47). Ripberger (2011), borrowing from Newig (2004), uses a simpler definition, but one that also fits well with a measure based on Internet search data: "the scarce resources – time and other – that citizens willingly dedicate toward thinking about a publicly debated issue" (Ripberger 2011, 240).

The disagreement between Ripberger (2011) and Mellon (2013, 2014) about the most appropriate existing measure of public attention against which to measure Google Trends data reflects the important weaknesses of each. While both authors acknowledge the use of two existing measures of public attention, they disagree as to which is most valid. Ripberger (2011), though critical of both, assesses the validity of Internet searches as a measure of issue salience by comparing Google Trends data to measures of salience based on media coverage. He emphasizes the dynamic nature of public attention – that unlike public opinion, the subject of citizens' attention is rarely stable (Newig 2004; Downs 1972). As result, he dismisses measures of public attention based on MIP surveys as, in addition to multiple other weaknesses, these surveys are conducted infrequently and cannot reflect the dynamism of changes in public attention (Ripberger 2011, 241-242). He recognizes important shortcomings of media-based measures of public attention – primarily that the strong correlation between public attention and media coverage prevents exploration of the nature of the relationship between these two factors (Ripberger 2011, 241-242) – but emphasizes its easy accessibility, flexibility and ability to track attention to issues more specific than the "broad spectrum" issues captured by MIP surveys (Ripberger 2011, 242). In contrast, Mellon (2013, 2014) relies exclusively on MIP surveys and dismisses Ripberger's reliance on media coverage arguing, without supporting evidence, that "the *New York Times* is not a representative measure of issue salience in the general population" (Mellon 2014, 47). Other than this, Mellon does not provide a specific argument about the validity of MIP surveys relative to media coverage, but instead provides an overview of ways in which MIP surveys have been usefully employed to measure public attention across a range of political science subfields (Mellon 2014, 48-49).

In the end, both authors argue that the analysis of Internet search trends can provide a useful measure of public attention that avoids some of the problems of both alternative approaches (although Mellon is more skeptical of its broad application than Ripberger). Internet searches provide a measure of citizens' active attention to specific issues that is sensitive to rapid changes over time. But is this measure applicable to studies of public attention in Canada, or to the specific issue of climate change? Mellon (2014) and Ripberger (2011) both test the validity of this measure in the US context, but Mellon (2013) finds similar results when comparing UK and Spanish search trends to MIP survey results. This suggests that the validity of this measure outside the United States. Although Mellon (2014) excludes climate change and environment from his analysis because neither is among the top issues mentioned in Gallup MIP surveys in the 2004-2012 period, in his analysis of public attention in the UK he finds that "global warming" is a valid measure of public attention to the environment, as does Ripberger (2011) for the United States.

3.2   Case Selection

Within-case analysis and process tracing are often applied to a single case. The method is effective, as explained above, because the collection of CPOs is context specific and the application of process tracing tests allows researchers to draw conclusions about the operation of hypotheses based on the consistency of observations – even from a single case – with empirical predictions derived from those hypotheses. However, for this dissertation I use process tracing in a larger number of cases: four policy areas in each of four cities.[40] This allows me to explain

---

[40] As discussed below, the total number of cases is 15. Because landfill management is the responsibility of Peel Region rather than the Brampton municipal government, this case is excluded from the analysis.

policy adoption in a variety of contexts. The four cities examined were selected to illustrate and explain climate policymaking in cities with diverse circumstances and diverse policy outcomes. Similarly, I have chosen four policy areas that, while not the necessarily the most important sources of local greenhouse gas emissions, illustrate different types of politics due to the costs and benefits they generate and the types of policy instruments employed.

While quantitative studies privilege random selection of cases and discourage selection on the dependent variable – or, truncation of the sample to include only some values of the dependent variable (Geddes 1990) – the logic of the research design for this study is not the same as that of regression analysis. As discussed above, within-case process tracing analysis will allow me to study each case in depth, accounting for its particular context and exploring the mechanisms that link causes to effects (Tansey 2007). This mechanism-level study is the key to understanding not only why cities have more or less policy than others, but also why they adopt certain types of policy. Importantly, the differences between cities discussed below certainly shape the context in which climate change policy decisions are made, but they can be accounted for within the process tracing methodology. By allowing me to examine policymaking in a wide variety of contexts, these differences enhance, rather than impede, the causal leverage of the method employed here.

3.2.1   Different Cities, Different Contexts

This dissertation focuses exclusively on large Canadian cities. I limit my analysis to cities located in Canada because while the precise jurisdiction of Canadian cities varies by province, all are subject to the constraints of a common federal system governed by the Canadian constitution. Limiting the cases to Canadian municipalities allows me to control for cross-national differences in municipal autonomy and relationships between cities and the central

103

government. For example, while there are arguments to be made about similarities between American and Canadian cities, a number of analyses point to important differences between them (e.g., Goldberg and Mercer 1986; Garber and Imbroscio 1996).

Canadian municipalities' constitutional standing gives them similar levels of autonomy from their respective provincial governments, at least in theory. In the United States, the responsibilities of cities vary, again theoretically, depending on whether they are subject to Home Rule or Dillon's Rule. Home rule municipalities are permitted to do anything that is not prohibited by state law, where as those subject to Dillon's rule are only permitted to take actions where state law specifically permits it (Wolman and Goldsmith 1992). In Canada, legal doctrine has more closely approximated Dillon's Rule than Home Rule, although this has been shifting and more recent municipal legislation at the provincial level has begun to provide more legal autonomy to municipalities (Tindal and Tindal 2004). Unlike their American counterparts, in practical terms, Canadian cities have had little authority to take action not explicitly mandated by provincial governments, leading to a much greater reliance by municipalities on service provision than regulatory authority – with the exception of zoning and land-use planning.

In addition to limiting the cases to Canadian cities, I also examine only large cities. Slack et al. (2006) find that large cities face different challenges and opportunities than their smaller counterparts. Large cities, they argue,

> are powerful magnets for the young and highly educated, as well as the disadvantaged, they are the dominant gateways for new immigrants, the command and information centres for the economy, and the focal points of global connections….They also exhibit, on average, higher levels of traffic congestion, environmental pollution, social segregation, income inequalities and cultural alienation. (Slack et al. 2006, 1)

However, it is not immediately clear how "large city" should be defined. Slack and her colleagues suggest that there are four elements to be considered: the "minimum size threshold for large cities;…how size is to be measured;…whether we use municipal (political) boundaries or functional boundaries[; and]…a definition of the actual margin or boundary of the cities under study" (Slack et al. 2006, 10).

In the context of this dissertation, the third and fourth elements are straightforward. Because I am interested in the specific decision-making processes of local governments, the cities considered in the dissertation are defined by their political boundaries. That is, I examine only single- or lower-tier municipalities. Although metropolitan regions or Census Metropolitan Areas may more accurately or completely encompass the functional economic or geographic area, local governments can only make decisions that affect the citizens and businesses within set political boundaries. Questions of appropriate scale of municipal governance and the need for greater consistency between cities' political and functional boundaries are outside the scope of this dissertation (but see Sancton (2008) for a discussion of the congruence between city-regions and formal political boundaries).

The first two elements are more difficult to adjudicate. As Slack et al. (2006) note, the "size threshold [of what] constitutes a 'big' city…[is] arbitrary and conditional. That is, [it is] dependent on our perceptions of what cities are, and…where they are located" (Slack et al. 2006, 13). For example, a city of one million residents would be considered large in Canada, but small in China or India. The authors note that large cities are commonly defined using a threshold of 100,000 residents, but that some have created further classifications for major cities (one million residents) and mega-cities (over five million residents) (Slack et al. 2006, 16).

In terms of the impact of city size on policy outcomes, and climate policy outcomes in particular, Robinson (2000) finds that size matters: larger municipalities were more likely than smaller municipalities to act in response to climate change.[41] While her dependent variable is different than that used here (see Chapter 2), it follows that larger municipalities would adopt more and higher climate policy because they have greater capacity, in terms of both financial and staff resources.

In this dissertation I hold city size constant across the cases. The universe of cases for this study includes all Canadian municipalities with a population of over 500,000 residents according to the 2011 Census: Brampton, Calgary, Edmonton, Hamilton, Mississauga, Montreal, Ottawa, Quebec City, Toronto, Vancouver, and Winnipeg. Regional or upper-tier municipalities are excluded. By focusing on municipalities of over 500,000 residents, I aim to capture cities that are similar in terms of the constraints and challenges they face as urban centres and that have substantial bureaucratic capacity in terms of financial resources and staffing.

Beyond similarities in country and size, the four cities studied in this dissertation vary considerably. I have chosen four cities that have different outcomes in terms of their overall climate policy effort: one with very limited climate policies (Brampton), one with some climate policy (Winnipeg), and two with a relatively large number of policies (Vancouver and Toronto).[42] I have also attempted to avoid cases that were likely to be *sui generis* – for example, Mississauga was excluded not only because it is very similar to Brampton (both are rapidly growing suburban municipalities in the Greater Toronto Area and members of the same upper-

---

[41] Specifically, Robinson (2000) finds that only 16.7% of the smallest municipalities had responded to climate change, "compared to 33.8 % ([cities with] 30,000-99,999 [residents]), 57.6 % (100,000-299,999 [residents]) and 81.8% (300,000+ residents)" (Robinson 2000, 145). Municipalities smaller than 10,000 residents were excluded.
[42] For a count of the policies and instrument types adopted by each municipality see Chapter 1.

tier municipality: the Region of Peel), but also because Hazel McCallion was mayor of

Mississauga for forty consecutive years, from 1974 to 2014. I have further selected cities that

differ on a number of other bases. Three are central cities of their metropolitan region, whereas

one is suburban; two are single-tier municipalities and two are part of broader regional

governments; one is a global financial centre; three are "hub" cities;[43] three are part of climate

change policy networks; they have various administrative and legislative institutions and

electoral systems; they are located in three provinces; and they have experienced different rates

of economic growth.

The choice of Brampton, a new city on the outskirts of Toronto, may not be immediately

obvious as it has a more suburban character than the other cities, and this could be thought to

cause its lower climate policy output. However, Brampton has a population of over 500,000

residents and faces many of the same challenges of its more urban counterparts including urban

sprawl, rapid population growth, and increasingly problematic traffic congestion.[44] The detailed

process tracing approach, detailed above, allows me to examine policymaking in Brampton

within the context of the City of Brampton and to determine whether climate policy choices were

made for reasons hypothesized in Chapter 2, or if they were the result of other characteristics of

the city.

---

[43] In 1999 the mayors of Canada's hub cities (Toronto, Montreal, Calgary, Winnipeg and Vancouver) met to discuss their need for increased municipal autonomy and authority. These cities, dubbed the 'C5' were described as being "of regional and national importance because they act as hubs of economic activity and innovation" (McAllister 2004, 150).
[44] J. Eric Oliver (2006) argues that it is difficult to describe a "typical" suburban municipality. While this claim resonates in the Canadian context, his descriptions of American municipalities and metropolitan regions fit more awkwardly with the Canadian experience. Unlike Canadian metropolitan regions, the metropolitan regions Oliver describes are highly fragmented featuring suburban municipalities that are mostly small in size (almost all under 100,000 residents) and highly segregated in terms of ethnicity and economic status.

In fact, each of the cities chosen has idiosyncratic characteristics that could be thought to cause its climate policy outcomes. The City of Toronto, created in 1998 through the amalgamation of the member municipalities of Metro Toronto, is much larger than the other cities with 2.6 million residents. It is the centre of Canada's largest and rapidly growing metropolitan region and is a global financial centre and the only Canadian city classified as a "global city" by Saskia Sassen (2006).[45] The City of Vancouver, a small city in terms of physical size (115 km^2), is the central city of a metropolitan region with a total population equivalent to that of the City of Toronto. Unlike Toronto, a single-tier municipality, the City of Vancouver is a lower-tier municipality in the Metro Vancouver regional government.[46] The City of Winnipeg is different again. Following municipal amalgamation in 1971, the city is the largest in Manitoba, in 2011 making up 55% of the provincial population (Statistics Canada 2011c). It is the political, economic and cultural centre, and has historically served as a transportation hub, linking the eastern and western parts of the country and Canada to the American Midwest. While the city experienced slow population growth in the 1980s and 1990s, the economy has begun to be revitalized and Winnipeg has recently seen a resurgence in employment, investment and

---

[45] In contrast to Sassen's approach, the Globalization and World Cities (GaWC) project at Loughborough University classifies cities based on their connectivity within networks of world cities. This means that they can include a much wider range of cities. London and New York are the most connected cities in the network, and are the only members of the "alpha++" category. All other cities are ranked from "alpha plus" to "gamma minus" with additional categories of "high sufficiency" and "sufficiency". Using 2012 data, Toronto is the only Canadian city to be granted "alpha" status. Vancouver is ranked as "beta" and Winnipeg is in the "sufficiency" category. Brampton is not included in any of the categories.

[46] Although the City of Vancouver is the largest member municipality in Metro Vancouver, it is not the majority and does not have a controlling voice. Rather, the Board of Metro Vancouver is made up of 38 Directors appointed by their respective municipal councils. The number of Directors allotted to each of the 23 jurisdictions, and the number of votes per Director, is linked to its population. Vancouver's seven Directors collectively control 31 votes (four or five each) of the total 124-136 total votes. This variation in the total number of votes is because there are three separate sub-organizations of Metro Vancouver: the Greater Vancouver Regional District, the Greater Vancouver Sewerage and Drainage District, and the Greater Vancouver Water District. Some Directors have a different number of votes each of these boards, and City of Abbotsford only participates in the Parks function of the Greater Vancouver Regional District (Metro Vancouver 2016).

population. The city experienced less of a decline than the national average during the 2008-2009 recession and subsequently economic growth has been close to the average of similarly sized Canadian municipalities (Winnipeg 2011, 14).

While it would certainly be possible to identify case-specific causes of policy decisions, the purpose of this dissertation is to find generalizable explanations of local climate policymaking. Thus, in each of the empirical chapters that follow I look for evidence of the operation of the hypotheses and alternative explanations specified in Chapter 2. The cities examined in this dissertation also vary in terms of the presence of independent environment departments, policy champions, electoral systems, provincial delegation of authority, and membership in inter-local climate change networks.[47]

Both Toronto and Vancouver have independent environment departments within their municipal administrations. In Chapters 6 and 7, I explore the creation, survival and influence of the Environmental Protection Office/Toronto Environment Office/Environment and Energy Division, and the Toronto Atmospheric Fund (TAF) in Toronto, as well as Vancouver's Sustainability Group. There are no equivalent departments in Brampton or Winnipeg. Each city employs one or two urban planners whose position is focused on environmental issues, and each has an environmental advisory body. The Brampton Environmental Planning Advisory Committee and the Mayor's Environmental Advisory Committee in Winnipeg are both primarily made up of citizens and neither has the capacity or authority to create policy that might be incorporated into administrative practice or passed by Council. Moreover, neither the advisory

---

[47] Note, however, that the characteristics of the cities discussed above may affect the political economy factors in each city, and thus the operation of Hypotheses 1-5.

committees nor the environmental positions fit the criteria of an independent environment department. The creation and influence of these positions and advisory committees are explored in detail in Chapters 4 and 5.

In all four cities there are politicians and staff who believe that cities should act to mitigate global climate change, these individuals are much more prominent in Toronto and Vancouver than in Winnipeg and Brampton. Moreover, in Toronto and Vancouver these policymakers tend to hold positions with more influence and there have been identifiable champions for environmental issues in both cities since at least the 1980s. These individuals, their motivations, and their influence are discussed in detail in the empirical chapters.

The cities also vary in terms of their membership in inter-local climate change organizations. All but Brampton are members of the FCM's Partners for Climate Protection program and Vancouver and Toronto are also members of the C40 Cities Network and ICLEI Canada. The influence of membership in such networks on climate policy adoption is explored in each of the empirical chapters.

The four cities are located in three provinces (Ontario, Manitoba and British Columbia), each of which has different provincial approaches and legislation regarding climate change and related policy areas. This variation allows for adjudication of the alternative hypotheses regarding provincial influence on municipal climate change policy. Moreover, three of the four cities have specialized provincial legislation that governs that city differently than the province's other municipalities. The Vancouver Charter and the City of Toronto Act are considered to give those cities substantial independence, whereas the Winnipeg Charter is much less permissive. The City of Brampton is governed under the more general Ontario Municipal Act. These differences allow for an evaluation of the role of provincial delegation of authority to cities.

Further, as noted above, Vancouver and Brampton are each lower-tier municipalities: members of larger regional governments, Metro Vancouver and Peel Region, respectively. However, Vancouver and Brampton occupy very different positions within those regional governments. Brampton is the second-largest of three constituent municipalities and has about 30% of the seats on the Regional Council.[48] Although Vancouver is the central city and has the largest population, it is only one of 23 jurisdictions and controls only 22-25% of votes on any issue. Moreover, important local government functions, such as public transit, fall outside the jurisdiction of both the Metro Vancouver regional government and its constituent municipalities.

In terms of electoral systems, Toronto, Brampton and Winnipeg all use a non-partisan single member plurality ward system, but Vancouver has an at-large electoral system structured by local political parties called formally called civic associations.[49] It is possible that the motivations for seeking municipal political office vary across the four cities – for example, that municipal politicians in Toronto and Vancouver see municipal office as a stepping stone to more prestigious positions at other levels of government, whereas politicians in Brampton and Winnipeg are more interested in serving their local communities. Or the reverse could be true. However, this does not seem to be supported by the evidence. It is certainly true that local politicians in Vancouver and Toronto have gone on to prominent positions in federal and

---

[48] There are three member municipalities of the Region of Peel: the City of Mississauga, City of Brampton, and Town of Caledon. Caledon is much smaller than the other two member municipalities, with only 59,000 residents in 2011 (Statistics Canada 2011b).Of the 24 regional council seats, twelve are allocated to Mississauga, seven to Brampton and five to Caledon. Regional councillors are directly elected by the citizens of each lower-tier municipality and also serve as lower-tier city councillors. The mayor of each lower-tier municipality also sits on the Regional Council.

[49] Local elections in Brampton are conducted using a variation of the ward system. The city's ten wards are paired, and voters elect one city councillor and one regional councillor for each pair of wards. All ten councillors – both city and regional councillors – serve on the Brampton city council, but the regional councillors also sit on the Peel Region Council and make decisions for the whole region.

provincial politics. Former Vancouver mayors Mike Harcourt and Gordon Campbell later became Premier of British Columbia, and Sam Sullivan is a provincial representative. Former mayor of Toronto, Art Eggleton later became a federal cabinet minister and senator, and many former city councillors have been elected to prominent positions at both provincial and federal levels including Jack Layton who led the federal New Democratic Party. However, this trend is also evident in Winnipeg and Brampton: long-serving councillor Bob Callahan interrupted his municipal service to be an Ontario Member of Provincial Parliament (MPP), and Winnipeg Mayor Glen Murray resigned in the middle of his term to run for provincial office in Ontario, where he became a cabinet minister.

Furthermore, federal and provincial politicians from all four cities also move from these levels of government to the municipal level – for example, Vancouver Mayor Gregor Robertson was a provincial cabinet minister before resigning that position to run for municipal office. Likewise, federal NDP Member of Parliament (MP) Judy Wasylycia-Leis ran for twice ran (unsuccessfully) for mayor of Winnipeg; Brampton Mayor Linda Jeffrey, elected in November 2014, left her position in the provincial government to seek municipal office; and before defeating former councillor and prominent federal NDP MP Olivia Chow in the 2014 municipal election, Toronto Mayor John Tory was an MPP and leader of the Ontario Progressive Conservative Party. It thus seems that in all four cities municipal office *can* be a stepping stone to federal and provincial positions, but the reverse is also true.

3.2.2 The Specific Policy Areas

Greenhouse gas (GHG) emissions are produced from a variety of sources. The UNFCCC breaks down these sources into six main categories for reporting purposes – energy, industrial processes, solvent and other product use, agriculture, waste, and land-use, land-use change and

112

forestry. The energy category is further broken down into three major sub-categories: stationary

sources, transportation, and fugitive sources. These sources categorized as "Energy" produce

more than half of GHG emissions in all jurisdictions – much more than half in many cases.

Globally, a disproportionate share of emissions is produced within the physical boundaries of

urban areas – upwards of 70% of energy-related CO_2 emissions in 2006 according to the IPCC

(IPCC 2014a, 26). However, many of the sources of GHG emissions fall outside the jurisdiction

of Canadian municipal governments – for example, fossil fuel extraction, agriculture, and the

regulation of industrial processes. Only a small number, such as buildings, road transportation,

waste, and the conversion of natural spaces into developed land, may be influenced by local

government decisions. Table 3.2, below, shows the proportion of GHG emissions by sector (only

those most relevant to local government activities) at the global, national, and provincial levels

(for British Columbia, Manitoba and Ontario).

Table 3.2 Greenhouse Gas Emissions by Sector

	Global[a]	Canada[b]	BC[c]	MB[c]	ON[b]
Stationary Sources	50%[d]	44%	32%	20%	56%[e]
Buildings	18%	12%[f]	11%[f]		17%
Transportation	14%	28%	39%	39%	34%
Road transportation		23%	25%		
Waste		3%	8%	5%	4%

Note: These data do not represent the full range of GHG emissions or sources. These are the sources that produce large proportions of jurisdictions' GHG emissions *and* may be influenced by actions by Canadian local governments.
[a] 2010 data; [b] 2012 data; [c] 2013 data
[d] This figure calculated by summing buildings and industry categories
[e] This figure calculated by summing buildings, industry and electricity generation categories
[f] This figure includes only residential, commercial and institutional buildings
Sources: IPCC (2014a); Environment Canada (2014); British Columbia (2013); Manitoba (2014); Ontario (2014)

A report for the Federation of Canadian Municipalities (FCM) suggests that in 2006 local

governments had direct or indirect control over 44% of Canadian emissions (EnviroEconomics

2009, 1). Direct control results from responsibility for corporate emissions produced through

municipalities' internal operations as well as decisions about landfill and waste management. In this category, waste management dwarfs internal operations – in 2006, emissions from landfills exceeded corporate emissions by a factor of five (EnviroEconomics 2009, 4). Indirect control refers to local governments' policy choices in the areas of land-use planning, zoning, building codes and permits, parking supply and pricing, roads, and public transit that affect the private sector.

Referring to the categories from Table 3.2, above, these are decisions that affect emissions from stationary sources (residential, commercial and institutional buildings and industry (excluding primary industry)), and road-based personal and freight transportation. Of the emissions over which municipalities are said to have direct or indirect control, 40% are produced by buildings and 42% by personal and freight transportation. Landfill and waste management produce 6%, and municipal operations only 1.3% (calculated from EnviroEconomics 2009, 4). Given these figures, the highest impact local climate policies are likely to be those that target buildings or transportation. Moreover, even if municipalities were to entirely eliminate their own corporate emissions, the relative impact on overall emissions in the jurisdiction would be minimal.

While the policies examined in this dissertation affect the areas above – municipal operations (fleet management); waste management (landfill gas capture); transportation (bicycle infrastructure) and buildings (green building standards) – they were not chosen because they impact the most important sources of GHG emissions or because they are the policies most likely to reduce emissions. Rather, they were selected because they differ in terms of the way in which they distribute costs and benefits for governments, citizens, and business interests. In other

words, the process of adopting each of these policies illustrates a different political dynamic within municipal governments.

However, often the distribution of costs and benefits of a policy depends on *both* the policy area *and* choices the local government makes about policy settings and instruments – in other words about its ambition, scope and coerciveness. For example, a decision to implement a policy that requires builders to meet certain green building standards (i.e. with a given coerciveness and ambition) could be written such that it has varying scope: the policy might apply only to buildings owned by the municipality, or it might apply to residential towers built by the private sector, or it might apply to all buildings regardless of type or ownership. The distribution of costs and benefits in each of these varies. If it applies to the municipal buildings only, then the costs and benefits accrue to the local government (with the exception the very small benefit distributed among all residents from the reduction in GHG emissions from those few buildings). If it applies to all buildings, then the costs are distributed among all real estate developers and their customers and the benefits are felt by the owners who save money from better energy efficiency, occupants who experience a more comfortable environment, and society at large that faces a (very slightly) smaller risk due to the effects of catastrophic climate change.

For some policies, such as in the example above, the government's choices about ambition, scope and coerciveness of the policy make a big difference to both the distribution of its costs and benefits. For others, such as municipal fleet management, the differences are much less stark. The operation of the hypotheses outlined in Chapter 2 may depend on the particular policy areas and the distribution of costs and benefits associated with policy choices – for example, real estate developers are more likely to be opposed to policies that directly affect their interests (e.g. green building policies that are mandatory for private sector developments) than to

those that affect them less (e.g. voluntary green building programs or green building policies that apply only to municipal buildings) or not at all (e.g. fleet management or landfill gas management policies).

Furthermore, as discussed in Chapter 2, choices about a policy's ambition, scope and coerciveness may lead to important differences in the overall likely impact of the policy on GHG emissions. However, the extent to which these dimensions can vary depends on the issue (see Table 3.3, below). For example, for landfill gas capture, the coerciveness of the policy cannot vary (either the local government builds a capture system or it does not) and the maximum scope of landfill gas capture is limited by the scale of the landfills owned or used by the government.

Table 3.3 Potential Values of the Dependent Variable for All Policy Areas

Policies		Dependent Variable: Likely Impact of Climate Policy			
		Dimension: Ambition	**Dimension: Scope**	**Dimension: Coerciveness**	**Likely Overall Impact**
Landfill Management					
Hypothetical minimal policy	Landfill gas capture and flaring	Medium	Low/ Medium	Medium	Medium
Hypothetical maximal policy	Landfill gas capture and utilization	High	Low/ Medium	Medium	Medium/ High
Fleet Management					
Hypothetical minimal policy	Purchasing a small number of hybrid vehicles	Low	Very Low	Low	Very Low
Hypothetical maximal policy	Comprehensive strategy requiring departments to minimize emissions	High	Low	Medium	Medium
Cycling Infrastructure					
Hypothetical minimal policy	Small number painted lanes on residential streets	Low	Very Low	Medium	Very Low
Hypothetical maximal policy	Extensive urban cycling network including multiple separated lanes and cycle tracks	High	Medium/ High	Medium	Medium/ High
Green Building Policy					
Hypothetical minimal policy	Consideration of green building practices in decisions regarding City-owned buildings	Low	Low	Very Low	Low
Hypothetical maximal policy	Requirement that all buildings, regardless of ownership, be LEED Platinum certified	High	High	High	High

But the ambition of the policy – goals about the proportion of landfill gas captured and whether it is flared or utilized (see below for a discussion of the particulars of landfill gas capture policy) – can and does vary among cities and within cities over time. For landfill gas capture, differences in choices about the ambition of the policy will result in small differences in the likely overall impact. In contrast, the range of choices policymakers face with regard to cycling infrastructure, and the likely impact of the policy resulting from these choices, is much greater. For example, what kinds of lanes will be built (e.g. signed, painted, separated, shared use), where will they be located and how long will they be, will they be part of a comprehensive network of pathways? The goal of building cycling infrastructure – from a climate policy perspective – is mode-switching: convincing citizens to substitute their bicycles for their cars for at least some trips. This is more likely to happen if infrastructure is built with greater scope and ambition; in other words, lanes connected in a comprehensive network and provide physical protection from cars. Thus, such infrastructure is likely to have a much higher impact on GHG emissions than a small number of short, disconnected painted lanes on residential streets.

In contrast to the hypothetical values of the dependent variable illustrated above, Table 3.4, below, indicates the value of the dependent variable for the observed policies in each policy area in each city. These are the policies that are examined in the empirical chapters, below. As expected, there is variation in the values of the dependent variable both across cities and policy areas. Note that landfill gas capture in Brampton is excluded because landfill management in Brampton is a responsibility of the regional government. Since this responsibility is outside of the City of Brampton's jurisdiction, I do not consider the municipality to have enacted less or lower impact climate change policy.

Table 3.4 Values of the Dependent Variable for Each of the Policies Adopted in Each City

Cases	None	Low	Medium	High
	Value of the Dependent variable			
Landfill Gas Capture (Winnipeg)			●	
Landfill Gas Capture (Vancouver)				●
Landfill Gas Capture (Toronto)				●
Green Building (Brampton)	●			
Green Building (Winnipeg)		●		
Green Building (Vancouver)				●
Green Building (Toronto)				●
Green Fleet (Brampton)		●		
Green Fleet (Winnipeg)		●		
Green Fleet (Vancouver)			●	
Green Fleet (Toronto)			●	
Cycling Infrastructure (Brampton)		●		
Cycling Infrastructure (Winnipeg)			●	
Cycling Infrastructure (Vancouver)				●
Cycling Infrastructure (Toronto)			●	

Each of these policy areas, potential differences in the distribution of costs and benefits,

the options available to Canadian municipalities in terms of policy ambition, scope and

coerciveness, as well as their potential value on the dependent variable are explored in the

sections below.

3.2.2.1   Landfill Gas Capture

Many Canadian landfills are owned and operated by local governments. The waste

dumped there is the product of the residents and business of the municipality. Landfill gas

(LFG) is the gas produced by decomposing organic materials in landfills. The gas is

mostly composed of methane, although it also contains carbon dioxide and other

contaminants. These contaminants are the source of unpleasant smell often associated with

landfills. Methane is an extremely powerful greenhouse gas at 21 times the strength of

carbon dioxide (IPCC 2007), and represents a large proportion of most cities' GHG

emissions. Methane is also highly explosive. Thus, for large landfills, leaving landfill gas

to dissipate into the air is harmful to the global climate, unpleasant, and potentially dangerous for employees and neighbours.

Landfill operators capture LFG by drilling wells into closed sections of the landfill and laying a system of permeable pipes. The pipes capture and transport the gas to a central location where it can be burned or used for other purposes. Practitioners use the term "flaring" to describe the practice of burning off the collected gas. The purpose of flaring is to eliminate the methane by converting into carbon dioxide and water vapour. The advantages of this process are that it reduces greenhouse gas emissions since carbon dioxide and water vapour are much less powerful greenhouse gases than methane, it reduces odours associated with landfilling garbage, and it mitigates the risk of explosion from built up methane.

Instead of flaring, landfill managers can also use the LFG collected for other purposes. This is called "utilization". Two common uses are the generation of heat and electricity and conversion into other fuels. Both can be used on site, or sold to others through the electricity grid or pipelines. Although utilization will likely have higher upfront costs than flaring, it provides opportunities for municipalities to make money from their garbage.

The scope of a city's LFG policy depends on the size and number of landfills to which it applies – or the proportion of the city's waste that is disposed of in the affected landfills. However, since LFG represents a large proportion of municipal GHG emissions, any policy to collect LFG is likely to be of relatively large scope. In terms of the ambition of the policy, the decision of whether to flare the gas or use it to generate electricity or heat is important as utilization has the potential to further reduce emissions (if it replaces fossil fuel energy sources). The coerciveness of a landfill gas capture policy is constant – either the City builds the infrastructure or it does not. Moreover, decisions about landfill

gas capture policy are not intended to change the behaviour of citizens or business. While the amount of LFG produced (and subsequently captured) is dependent on the quantity and content of refuse these actors send to the landfill, these factors are the result of decisions taken in other areas of solid waste management, such as curbside collection and diversion programs.

Because LFG policy has minimal effect on citizens and business interests, the main consideration for policymakers in terms of the political economy factors identified in Chapter 2 is the cost to the local government for the infrastructure and its maintenance. These are large projects that are costly and technically complex, particularly for gas utilization. Cities may contract private actors to operate the LFG power plants and costs and revenue depend in part on the prices the provincial utility is willing to pay for the electricity. Depending on the terms of the contracts, this may result in financial risk to the municipal government. The advantage of utilization is the sale of electricity has the potential to generate revenue for the local government to offset some or all of the costs of building the infrastructure. Flaring, in contrast, is costly and provides no revenue generation opportunities.

Issue salience is a secondary political economy factor that might play a role in decision-making in this policy area. Landfill gas collection is of low public salience as it is far from the public eye. Solid waste issues that affect the public on a regular basis, such as policies to divert materials from landfills through curbside recycling and composting programs, tend to attract more public attention. The public is tends to pay attention to landfills only where there are complaints about odours or very rare instances of explosions from leaking methane. In these scenarios LFG collection is often the best solution for

addressing public complaints, and so higher public attention to landfills should lead to more and more ambitious LFG policy.

3.2.2.2   Building Standards

In most of Canada, the building code is set by the federal or provincial government. This means that municipalities have limited ability to change standards; however, there is leeway in terms of building practices that fall within the bounds of the code. Green building, an approach to construction and maintenance that takes the environment into account, is one such option. The United States Environmental Protection Agency (US EPA) defines green building as

> the practice of creating structures and using processes that are environmentally responsible and resource efficient throughout a building's life-cycle from siting to design, construction, operation, maintenance, renovation and deconstruction. This practice expands and complements the classical building design concerns of economy, utility, durability and comfort. (US EPA 2012, 1)

The green building movement aims to accomplish multiple sustainability goals, including "efficiently using energy, water, and other resources; protecting occupant health and improving employee productivity; and reducing waste, pollution and environmental degradation" (US EPA 2012, 1). Specifically as it relates to climate change, green building reduces greenhouse gas emissions through both decreased energy use, and more sustainable construction and demolition practices. Green building is a technique that can be used in the design of new buildings, or in the renovation or retrofitting of existing buildings. Since buildings have long life-cycles, applying green building practices to existing structures allows the built environment to be transformed to a much greater degree, more quickly.

Focusing on reducing emissions from buildings makes sense as they are estimated to account for 27% of Canada's total greenhouse gas emissions (Lawlor et al. 2006, 22). However, in practice, many local green building policies are designed to apply to properties that are either owned or leased by the government, that is, to corporate facilities and their associated emissions. Due to the fact that few new City-owned buildings are built (Regan 2010, 6), such policies are likely to be only rarely applied. Green building policies that apply to existing corporate buildings will have broader application than those for new construction, but the scope of such policies is still limited because corporate buildings account for less than 11% of all buildings in any city.[50]

While the benefits to society at large are minimal, green building policy that applies to municipally owned buildings may lead to net financial benefits for the local government. Although green building practices tend to require upfront investment in the construction and design phases, they also tend to reduce operating costs, especially for electricity and water. Thus, while the costs are higher in the short term, there are net benefits in the long term. However, local policymakers' enthusiasm may be tempered by the inherent risks of relying on investment over time. In other words, they must be willing to not only look beyond the immediate electoral cycle, but also trust that the expected returns will indeed materialize.

Green building policies can also be applied to the community as a whole. Some cities have voluntary programs or provide information about green building practices for use by those constructing or renovating properties; others provide subsidies for particular renovation or building practices; and the most ambitious create regulations that require builders to meet

---

[50] The International Energy Agency reports that 11% of buildings in the US are government owned (Waide et al. 2009). I infer that the proportion of buildings in any city that are owned by the municipal government itself is less than 11% because this figure also includes buildings owned by state and federal governments. The report does not include Canadian data, but I assume that the proportion of government-owned buildings is similar in both countries.

particular standards that are set by the city or third-party organizations. As discussed above, this last policy instrument – the regulation of private sector building – has the potential to have a big impact on greenhouse gas reductions as both scope and coercion are high: regulations are most coercive, and new buildings and renovations of existing structures represent a big part of economic activity and greenhouse gas emissions (from both construction practices and the structures themselves). However, because Canadian municipal governments rarely have control over their own building codes, there is often potential for coercive building regulations to cause jurisdictional disputes with provincial or federal governments.

In the context of green building policy that applies to the private sector, private developers and building owners make the same calculations as policymakers about upfront costs and potential longer-term savings. However, there is a further disincentive to action because those who incur the upfront costs of the new buildings or retrofits may not be the occupants who reap the benefits. Depending on the real estate market, there may or may not be opportunities to pass along the costs to future buyers. Local governments can provide subsidies to offset the up-front costs of green building in the private sector, but this leads to net costs for the municipality. There may be non-financial net benefits to the City and to society as the result of air quality improvements, greenhouse gas emission reductions and potential financial savings from avoided costs for infrastructure needs (Banting et al. 2005), but this will depend on the relative magnitude of the subsidies and scale of green building adoption.[51] If the subsidies do not cover the entire cost of green building practices, it may not be attractive enough to developers to lead to

---

[51] For example, building green roofs to reduce the urban heat island effect only works if the green roofs are widely adopted (Banting et al. 2005).

widespread adoption. In such a scenario, the policy would result in costs to the municipal

government without the concomitant benefits should the practices be more broadly implemented.

Thus, while developers may support such policies, the local government is unlikely to act due to

cost concerns.

Real estate developers are the business group expected in the urban political economy

literature to have the most influence on municipal governments (e.g., Logan and Molotch 1987).

This is particularly relevant in this context because developers are those most directly affected by

municipal green building policy that seeks to reduce community emissions. It is reasonable to

argue that imposing mandatory standards on developers will lead them to incur net costs as they

would otherwise be adopting these standards voluntarily. Real estate development firms are in

the business of assessing risks, calculating discount rates, and determining the most profitable

business technologies for any given situation. As a result, I assume that because they seek to

maximize profit, such firms will already have implemented any green building technology or

technique that is likely to lead to net benefits, including any reputational and marketing

advantages associated with promoting a "green image" through green building certifications. I

therefore expect that the development community and associated lobby groups to be opposed to

coercive municipal green building policy.[52] Conversely, if a municipal green policy is minimally

coercive or applies only to buildings owned by the local government, it is unlikely to have any

discernable effect developers' costs because they are less likely to make changes to their

behaviour. However, even where green building practices are likely lead to net financial benefits

---

[52] May and Koski (2007) find support within the construction industry for municipal green building policy. However, they consider a green building policy that applied only to City-owned buildings and not to the private sector. This is consistent with the claims here.

for developers, most will still oppose standards that constrain their flexibility to build what they want in response to market forces alone.

There is some potential for green building policy to improve economic growth through the creation of a market for green building construction and development, but municipal policymakers may also be concerned that potential investors or new businesses may be scared off by higher rents or construction costs. In terms of issue salience, as described by Koski and his colleagues (e.g., May and Koski 2007; Koski 2010), the public tends to pay little attention to green building policy. The topic is considered a technocratic subject discussed among professionals in less public forums. This is especially the case for policy that applies only to buildings owned by the municipal government as this has no implications for more salient issues.[53] Similarly, individuals are unlikely to lobby government policymakers regarding green building policy because they are only diffusely and indirectly affected by it.

3.2.2.3   Fleet Management

Green fleet policies are packages of initiatives that aim to increase fuel efficiency and otherwise reduce pollution from the automotive vehicles owned or operated by a municipality. Municipal fleets vary in size, but generally include a wide range of vehicle types including passenger cars, specialized machinery such as street sweepers and snowplows, and heavy vehicles such as garbage and fire trucks. Green fleet policies may be limited to anti-idling recommendations or the purchase of a demonstration hybrid vehicle, or may be more extensive in scope, including accelerated schedules for vehicle replacement, internal regulations governing

---

[53] Green building policy tends to be more salient if it is linked to increased upfront housing costs. This might be the case if it is mandatory for condominium developers who then pass along the additional costs to homeowners.

the purchase of hybrid and electric vehicles, use of alternative fuels, funds to subsidize higher initial capital costs for client departments, and studies and pilot projects to test new technologies.

Even limited policies are likely to net financial benefits to the City because they tend to focus on fuel efficiency. Reducing the amount of fuel used by the fleet, decreases the cost of operating the fleet *and* decreases GHG emissions. More extensive policies also often lead to net financial benefits for the City because of reduced fuel use, but may involve higher upfront costs or even some net costs. Because green fleet policies apply only to vehicles operated by the municipal government, they are of very low public salience, do not lead private citizens or economic actors to change their behaviour, and have no effect on the profitability of economic actors or investment. I thus expect that the only relevant political economy consideration here is related to the budgetary implications of the policy.

3.2.2.4   Bicycle Infrastructure

Providing bicycle infrastructure is another way in which municipal governments can reduce overall greenhouse gases. This infrastructure is primarily composed of networks of pathways and on-street routes, including designated bicycle routes on traffic-calmed side streets, painted markings on major streets indicating a shared roadway or separated lanes, shared-use pathways for pedestrians and cyclists and dedicated bicycle lanes that are separated from traffic by a physical barrier (Pucher et al. 2011). Other types of cycling infrastructure not considered in this dissertation include parking and storage facilities as well as connections between transit and cycling routes. Using these strategies, local governments can encourage citizens to switch away from their automobiles towards bicycles for commuting or other utilitarian purposes. The encouragement of "mode-switching" is a type of climate change mitigation policy because as people cycle instead of driving their cars they burn fewer fossil fuels, resulting in lower levels of

126

greenhouse gases emissions. It is important to note that this logic only holds as long as the increased rates of cycling are at the expense of car trips, as opposed to greater public interest in cycling as a form recreation or sport.

However, providing infrastructure does not necessarily mean that residents will use it. The strategy only works as a GHG reduction strategy insofar as citizens take advantage of the infrastructure and begin to use their bicycles as an everyday form of transportation. The Ontario government's official cycling infrastructure manual for municipal policymakers suggests that there are four types of cyclists (Ontario 2014, 12-13). Consistent with the typical North American mode-share, this characterization suggests that only about 8% of a city's residents are either "strong and fearless" or "enthused and confident" cyclists who will ride regardless of the conditions of bicycle infrastructure or who ride frequently, but strongly prefer to use marked lanes and other facilities, respectively. A majority of the population tends to fall into the "interested but concerned" group. This group is comprised of the 60% of residents who could be convinced to use their bicycle as a form of transportation, but feel unsafe cycling long distances and are uncomfortable in mixed traffic. The remaining 32% are the "no way, no how" group: residents who are unlikely to ever cycle as transportation regardless of the infrastructure provided (Ontario 2014, 12-13).

Policies of providing cycling infrastructure are largely aimed at encouraging the "interested but concerned" cyclists, the largest group, to feel more confident and to engage in cycling as transportation. Cycling infrastructure comes in many forms, but what makes it attractive to citizens – particularly the interested but concerned cyclists – generally revolves around two primary characteristics: connectivity and safety (Ontario 2014, 20-21). One aim of public cycling programs is to create a network of routes that connect cyclists from their homes to

their places of work as well as other common destinations. Ideally, these routes will also connect to each other in a seamless manner so that there are no missing sections where the cyclist must merge into the regular traffic before resuming on the dedicated path or route. These characteristics make cycling more convenient for potential riders.

Globally, one of "the most popular and effective policies to boost urban cycling is the implementation of separated bicycle lanes on city streets" (Siemiatycki et al. 2014, 2). This is consistent with survey findings that "the general public rates…separated facilities as their top cycling priority" (Pucher et al. 2009, 633). Such lanes are "a visible counterweight to the dangers of cycling, both real and perceived" (Pucher et al. 2009, 633), and perceptions of safety are central to residents' decisions about whether to use their bicycle as a mode of transportation. If they are afraid that cycling is riskier than driving, residents are less likely to think of it as a reasonable alternative to the car. Perhaps unsurprisingly, studies have shown that "the possibility of accidental injury and death is a major obstacle to bicycling" (Pucher et al. 2009, 647). Riding in mixed traffic causes anxiety and tension for many, and is especially dangerous for children and the elderly (Pucher et al. 2009, 649). Thus, separated lanes and pathways are a particularly important element of the provision of cycling infrastructure if the goal is to reduce GHG emissions.

An ideal cycling network – completely connected extensive separated facilities that make transportation easy and safe from any point in the city to any other – is highly ambitious, large in scope and moderately coercive. Bicycle lanes are coercive in that they restrict motorists' use of parts of the roadway and may decrease the availability of parking, which is often considered by merchants and homeowners to be a significant cost. Their scope depends on length and convenience, and their ambition depends on the type of lanes built – whether they are physically

separated cycle tracks, painted lanes, shared use pathways, etc. Although by definition all citizens are permitted to use the lanes and thus all could contribute to GHG emissions reductions, if the lanes do not extend very far, are interrupted, or lead to unpopular destinations they will make a limited contribution to the overall cycling network and will not lead to significant emissions reductions as citizens will be less likely to use them. In sum, the impact of cycling lanes on greenhouse gas reductions is a function of both the degree to which they reallocate space from motorists (coercion), create a physical barrier between motorists and cyclists, (ambition), and constitute a comprehensive and connected network (scope).

On a surface level, decisions about cycling infrastructure is of high public salience because they involve changes to the physical form of the city and are relatively visible to the public. The salience of cycling infrastructure drops substantially when it comes down to the details of technical design – for example, the specifics of the materials used to build barriers between cyclists and other traffic. Because the network of cycling routes and pathways affects motorists, cyclists, and the occupants of buildings along the routes, municipal policymakers may be publicly opposed or supported by citizens and economic actors. Frequent cyclists may voice their support of bicycle infrastructure and motorists, homeowners and shop owners may oppose it due to (real or imagined) losses from increased traffic congestion or reduced availability of on-street parking. Homeowners and shop owners are most likely to actively oppose cycling infrastructure because the costs are concentrated on them. Motorists and cyclists are less likely to lobby governments directly because the costs and benefits are distributed more diffusely.

Building cycling infrastructure is costly to the local government, particularly in the case of separated lanes, but it is vastly less expensive than increasing capacity for cars by building new roads or widening existing ones (TCAT 2013). However, this trade-off is rarely top-of mind

129

for municipal policymakers, and because bicycle lanes do not provide any opportunities for revenue generation, they are considered to be provided at a net financial cost to the local government.

3.3   Conclusion

The rest of this dissertation is organized around the case study cities. In Chapters 4 to 7 I apply the process tracing tests described above through detailed studies of the climate policies in the four Canadian cities across the four climate policy areas. Chapter 8 summarizes the process tracing evidence and its implications for the hypotheses and sets out the contributions and limitations of this doctoral research. To foreshadow the results presented in the concluding chapter, evidence from the cases weakens the alternative hypotheses and strengthens the primary theory. In the cities where the most high impact climate policy is adopted, independent environmental departments are central to surmounting the barriers to local climate change mitigation policy created by political economy factors.

Chapter 4: Brampton, Ontario

4.1   Setting the Baseline

The lack of climate change policy adopted in Brampton, Ontario is consistent with the empirical predictions of the political economy and environment department hypotheses presented in Chapter 2. Namely, in the absence of an independent department with a mandate for climate action, we should observe little local climate change policy.

In this chapter I first provide a brief profile of the City of Brampton. The next part of the chapter establishes the presence of political economy factors that decrease the likelihood of climate policy adoption and the absence of an independent environment department. I also show that there are few climate policy champions within the City administration. I then trace the decisions to adopt, or fail to adopt, climate change policies in the areas of fleet services, cycling infrastructure, and building standards.[54]

I apply process tracing tests, as described in Chapter 3, to compare this evidence to the empirical predictions of the main hypotheses and alternative explanations presented in Chapter 2. This approach provides leverage for evaluating both *whether* a factor causes an outcome, and if so, *how* that causal process works. The implication of the evidence for our confidence in a hypothesized mechanism depends on both the nature of the prior empirical predictions (i.e., the type of process tracing tests) combined with the consistency of the evidence with those predictions. The findings of the chapter support the argument from Chapter 2. Brampton does not have many climate change mitigation policies and those that do exist are not likely to result

---

[54] As noted in Chapter 3, Brampton's decisions about landfill management are not discussed here as this is a responsibility of the Peel regional municipality and not the City of Brampton.

in significant GHG emission reductions. Political economy factors are an important barrier to action and there is no independent environment department that might facilitate such action by providing resources or information.

4.2   A Profile of the City of Brampton

Brampton is a rapidly growing suburban municipality on the western outskirts of Toronto. Incorporated in 1853, Brampton was a small agricultural town that was one of the largest producers of cut flowers in North America. Its economy is now dominated by the manufacturing and retail trade sectors (Bishun n.d., 8). Its population has grown substantially in the past forty years, from about 72,000 residents in 1971 (Region of Peel n.d.a) to 524,000 in 2011(Statistics Canada 2011a), and it is expected to grow to approximately 720,000 residents by 2031 (Lakeman 2013, Interview).

Brampton is a constituent municipality of the Region of Peel. The regional municipality is made up of three lower-tier municipalities: Brampton, Mississauga, and Caledon.[55] Of the 24 regional council seats, twelve are allocated to Mississauga, seven to Brampton and five to Caledon.[56] Brampton also participates in the governance of two Conservation Authorities whose territories overlap with its own: the Toronto and Region Conservation Authority and the Credit Valley Conservation Authority.[57]

---

[55] The Town of Caledon is much smaller than the other two lower-tier municipalities in the Peel Region, with only 59,000 residents in 2011 (Statistics Canada 2011b).

[56] The mayors of each lower-tier municipality sit on the regional council. Those elected as regional councillors also sit as city councillors in the lower-tier municipalities.

[57] The boundaries of Conservation Authorities follow watersheds, and often cross municipal borders. Municipal representation in Conservation Authority governance depends on the population of each constituent municipality (Ontario 1990a).

Local elections in Brampton are conducted using a variation of the ward system. The city's ten wards are paired, and voters elect one city councillor and one regional councillor for each pair of wards. All ten councillors, both city and regional councillors, serve on the Brampton City Council, and the regional councillors also serve on the Peel Regional Council. In 2006 Brampton was awarded an additional seat on the Peel Council.[58] Since then, the Brampton Council selects one of the five elected city councillors to fill that seat at Peel.

The legislative process in the City of Brampton is similar to that of other Canadian municipalities. During standing committee meetings, staff reports are received, public delegations are heard and proposals are discussed. Councillors make recommendations for the adoption of motions, policies and by-laws and these are then considered and potentially adopted by the Council. Unlike in other large Canadian municipalities, there are no separate meetings of standing committees. With the exception of the Planning, Design and Development (PDD) committee, all councillors come together during regular meetings of the Committee of the Whole (commonly known as the Committee of Council), to discuss and consider issues from all city departments. Issues brought forward by the departments are divided into six categories, by issue area. A councillor is designated as the chair of each of these "sections" and at meetings of the

[58] This was a very controversial reform. It was sparked by the mayor of Mississauga's push to secede from the Region (Douglas 2004). The mayor of Brampton opposed the plan for reform because although it would increase the absolute number of Brampton representatives, it would "have the effect of reducing Brampton's level of representation on Peel council and will give Mississauga unfair and unnecessary control over how the Region of Peel will operate" (as quoted in Douglas 2005). When the reform was passed by the Ontario provincial government in 2005, the total number of lower-tier municipality representatives on the Peel Regional Council increased from 21 to 24. Mississauga's representation increased from 10 to 12 regional representatives (councillors plus mayor), whereas Brampton's increased from six to seven regional representatives (councillors plus mayor) (Ontario 2005a). In September 2013 the City of Brampton made a formal proposal to increase its representation on the Peel Regional Council by an additional four regional councillors (equal to the City's total number of wards) (Brampton 2013a).

Committee of Council, the chairs of the sections take turns as chair of the committee (Hutton 2013, Interview).

There are many long-serving municipal politicians in Brampton. When Mayor Susan Fennell was defeated in 2014 after a spending scandal, she had served in that position for fourteen years. Although there was fairly significant turnover in 2014, many of Brampton's councillors have been even more long-serving than Mayor Fennell: seven of the ten councillors who were in office until 2014 had held that position for between 19 and 32 years. Bob Callahan was the longest serving councillor (1968-1985; 1997-2014). The councillors who held office for the shortest time were John Sanderson and Vicky Dhillon (2006-2014), followed by Elaine Moore (elected 2003). Sanderson made an unsuccessful bid for mayor in 2014. The average tenure of the city and regional councillors was 21.5 years, and from 2003 to 2014 only two incumbents lost their seats, one in a run-off between two incumbents following ward redistricting in 2003 (Douglas 2003b).

4.3   Political Economy Factors, Environment Departments and Alternative Hypotheses

In Brampton political economy factors serve as disincentives to climate policy and there are no independent environment departments. This is consistent with my hypotheses in Chapter 2. However, consistent with the alternative hypothesis regarding policy champions, there are few individuals who are personally committed to climate change action within the local government as well as some indications that other alternative hypotheses may also be operative.

4.3.1   Political Economy Factors

Evidence suggests that in the area of climate change Brampton policymakers are affected by the four of the five political economy factors outlined in Chapter 2. Brampton policymakers prioritize economic growth at the expense of climate policy (indirect business influence); they

give primacy to cost savings in policy decision making; they focus on issues to which citizens are paying most attention – which rarely have included climate change – and they react to the direct demands of citizens, which also rarely include climate change policy. There is little evidence of direct business influence over climate policy.

One of the ways that Brampton policymakers learn about public attention and public opinion is through the Region of Peel's annual survey of the most important issues to residents (N. Lee 2013, Interview).[59] According to Norman Lee, where environmental protection and waste management were the top priorities in the late 1990s and early 2000s, in 2008 the global financial crisis led to a resurgence of fiscal conservatism, or as he put it, "balancing the books" (N. Lee 2013, Interview). This is still the priority, although traffic gridlock and transit are also in the top two or three issues every year. Local politicians may learn about public opinion through communication with their constituents, presentations to Council and Council Committees, and reports from staff. Some constituents complain about environmental issues, but concerns tend to be about threats to local aesthetics – such as litter or dandelions – rather than global issues such as climate change (Sierra Club Peel 2013, Interview).

Brampton's staff also profess to be responsive to public demands. For example, Growth Management Policy Planner Brian Lakeman says: "I think of myself as having 550,000 bosses….We try to make choices that benefit the greatest number" (Lakeman 2013, Interview).[60]

---

[59] The description of the study provided by Lee suggests a more comprehensive and direct survey than the publicly available *Client Satisfaction and Confidence in Government Research* reports to which he referred me (Region of Peel n.d.b).

[60] This statement was made to me during a Public Information Centre (PIC), a public event during which members of the public were invited to view posters presenting the plans for a new light rail transit line and accompanying rezoning along the route. Thus, I suspect that Lakeman had incentives to be seen to be responsive to public input. As a result, this statement only slightly increases our confidence in the public opinion hypothesis because we would

Lakeman suggests that residents still think of Brampton as a small town – as a bedroom community – which leads them to resist measures that they perceive to be more suited to large urban centres. This is especially evident in the area of transportation policy. Lakeman argues that the city is experiencing growing pains, especially in terms of congestion, but despite "opportunities for transformation," change is difficult for people to accept (Lakeman 2013, Interview).

While the policy preferences of citizens are important to policymakers, these do not necessarily determine policy outcomes. Manager of Land Use Policy, David Waters, argues that listening to the public is important, but most people do not understand how the planning process works, and that they therefore have unrealistic expectations (Waters 2013, Interview). Likewise, while citizens complain about problems, such as traffic congestion, Lakeman argues that they are not yet at a point that they recognize that there is a need for change to in the shape of local infrastructure or their own lifestyles (Lakeman 2013, Interview). In the same vein, Brampton Regional Councillor John Sanderson argues that fiscal considerations come first. Regardless of the priority placed on issues by residents, "if we don't have the money to do it, we can't do it" (Sanderson 2013, Interview).

These statements suggest that policymakers' perceptions of public opinion are important to the Brampton policymakers in terms of the decisions they make, although this is not determinative. While there seems to be an emphasis on issues that are not necessarily related to climate change policy – and a particular focus on fiscal responsibility – the responses of the

---

also expect him to make such a statement for other reasons (such as presenting the *appearance* of being sensitive to public opinion). This is a hoop test (see Chapter 3).

policymakers above do not *rule out* climate policy. However, since climate policy seems to be far from the public eye – in other words, of low salience – it would seem to be an unlikely issue to come "naturally" to the top of Brampton's policy agenda.

Figure 4.1 Public Attention to Climate Change in Ontario (Brampton) and Canada

Blue: Canada; **Red:** Ontario
Search terms: "climate change" + "global warming"
Municipal Events: a = Formation of the Brampton Environmental Planning Advisory Committee (BEPAC);
b= Adoption of the Brampton Environmental Master Plan
Provincial, Federal and International Events: A = Announcement of federal *Turning the Corner* plan; B = Adoption of Ontario's climate change action plan; C = COP 15
Data source: Google Trends. Google Trends provides normalized and scaled data. The results of each search are plotted "on a scale from 0 to 100 by dividing the total search volume at each point in time by the highest value within that same time frame" (Ripberger 2011). Google Trends data is not available at the municipal level in Canada. However, the program compares regional search volume within the province. In Ontario, Brampton's relative search volume is not in the top 10 municipalities – it is thus lower than in Kitchener which is the 10th ranked municipality with 68. The "numbers represent search volume relative to the highest point on the map which is always 100" (Google Trends). This suggests that while it is conceivable that attention to climate change follows the same trends in Brampton as elsewhere in Ontario, the overall level is lower.

There is also little evidence that Brampton residents are paying attention to climate change, or that this inattention to climate change affects decisions related to climate policy. Following Ripberger (2011) I use Google Trends to measure the salience of climate change and sustainability in Brampton. This is a Google product that allows users to observe trends in Internet searches over time, as well as make comparisons between locations and among search terms. Ripberger (2011) argues that Internet searches are a more valid measure of public attention than media coverage because individuals must use terms associated with the issue in

137

order to perform searches, and therefore aggregate search trends demonstrate active attention to issues (for a full discussion of this measure of public attention, see Chapter 3).

Figure 4.1, above, uses Google Trends data to compare the trends in public attention to climate change in Ontario and Canada. Patterns of attention to climate change in Ontario are very similar to patterns of public attention across the country. Google Trends does not break down the data by municipality, but does provide a listing of the top 10 communities and their relative search volumes. The municipality with the most searches of the specified term is assigned a score of 100, and the others are given a score relative to their search volume. Brampton does not rank within the top 10, and thus has a score of less than 68. It is likely that the trend in searches over time in Brampton follows a similar pattern as that for Canada and Ontario, but certainly at a much lower level.

This is consistent with a hypothesis that posits that policymakers enact policy related to issues to which the public is paying attention, and that variation in municipal climate policy is the result of differences in attention to climate policy across cities. However, this hypothesis would also suggest that the climate policy that *is* adopted should be timed to correspond with peaks in public attention to climate change, or after a reasonable lag. In Brampton, at a general level, there is mixed evidence of this. While the Brampton Environmental Planning Advisory Committee (BEPAC) was created in 2007 during the highest peak in public attention to climate change both in Ontario and nationally, the Environmental Master Plan was not adopted until seven years later in 2014 when the issue was no longer of high public salience. While neither BEPAC nor the Environmental Master Plan count as policy in the context of this dissertation, they constitute the most prominent environmental actions taken by the City of Brampton and thus should also follow this pattern.

There is also evidence to support the hypotheses regarding cost savings and indirect business influence. The local government tends to focus on fiscal responsibility and accountability.[61] For example, in the 2006 mayoral election campaign, incumbent Mayor Susan Fennell was quoted as saying that the top three issues for citizens are growth, gridlock and taxes: "I'd say taxes is number one" (Douglas 2006b). Standing for office for a second term in October 2003, Mayor Fennell prided herself on being "the mayor of a city that is debt free and is run like a business" (Douglas 2003a). In her inaugural speech for her fourth term as Mayor in 2010, three of the six issues Fennell presented as her priorities for the term were economic: "fiscal responsibility and advocacy;…jobs;… and accountability and transparency" (Douglas 2010). Additionally, in response to Brampton's poor showing on *MoneySense Magazine*'s 2012 list of best places to live in Canada, Fennell argued that the survey did not acknowledge that the City has "remain[ed] debt free and [is] one of the few communities in Ontario with an AAA credit rating" (Douglas 2012).

This economic focus was also illustrated in a sentiment repeated by several interviewees, including David Laing of the Brampton Bicycle Advisory Committee:

If you're an environmentalist on Council you've got to keep your head low. It's still a political liability to be classified as an environmentalist. Job creation and fiscal responsibility are the only things that will get you elected and keep you in office. (Laing 2014, Interview).

---

[61] Notably, the Mayor Fennell was defeated in the 2014 municipal election following a scandal that was almost entirely about her expenses and perceptions that she had misused public money.

Similarly, a Brampton staff member argued that "we can't use the greenhouse gas argument. It has to be in terms of money saved. Greenhouse gases don't sell or buy votes" (Brampton Staff Member 2014, Interview).

4.3.2   Independent Environment Departments

The Brampton administration does not have an environmental department, nor are there environmental divisions within larger departments. There are only two employees whose responsibilities officially include sustainability considerations, and both hold relatively junior positions in the Planning, Design and Development department: Manager of Environmental Planning and Environmental Planner. With the exception of nature conservation measures as mandated by the Ontario Conservation Authorities of which the municipality is required to be a member, environmental issues are incorporated into Brampton's policy process at the discretion of individual staff members.

There is one group within the Department of Building and Property Management that explicitly deals with the issue of energy management and conservation for City properties. This energy group was assigned full-time staff for the first time in 2009 in the face of rising energy prices due to the Province of Ontario's deregulation of the electricity market earlier in the decade (Pyne 2014, Interview). The City of Brampton recognized that as a fast-growing municipality with significant increases in costs and corporately-owned square footage, they needed to think about energy conservation. The current role of this group is to gather data and consult with clients within the bureaucracy. They offer services and advice, including energy audits and retrofits. There is, however, no requirement that other groups and departments seek out, accept or implement the energy group's recommendations.

The City of Brampton has two citizen advisory committees with mandates to address environmental issues. Neither committee has legislative authority, but both can recommend actions and can undertake specific projects with Council approval. The Brampton Clean City Committee (BCCC) reports to the Committee of Council and has a mandate to "foster environmental awareness and responsibility; to build neighbourhood and community pride and a sense of ownership; to create opportunities for neighbourhood communities to preserve their environment; and to promote and coordinate opportunities to educate youth and adults about their environment" (Brampton n.d.a.). The BCCC is made up of thirteen citizen members. While there are two Council liaisons (one City Councillor and one Regional Councillor), they are not formal members of the committee (Brampton n.d.a.). While the mandate of this committee is environmentally focused, its emphasis on creating "opportunities" for citizens does not allow the committee to be involved in climate change policy making that goes beyond information sharing and promoting voluntary actions. Moreover, the lack of councillors on the committee makes it less likely that the concerns of the committee will be translated into concrete policy by Council.

The Brampton Environmental Planning Advisory Committee (BEPAC) was established by Council resolution in 2007 and reports to the Planning, Design and Development committee. BEPAC is made up of five citizen members and three Councillors. Its purpose is "to provide advice to City Council on environmental planning and policy matters with the goal of promoting the protection and enhancement of all aspects of the environment for existing and future residents of Brampton" (Brampton n.d.b.). The official mandate of BEPAC is to "review environmental planning initiatives of strategic importance to the City of Brampton undertaken by the City, Region, Conservation Authorities, Provincial and Federal Government and provide

comments and recommendations respecting the City's position and response to these initiatives"
(Brampton n.d.b.).

While this purpose and mandate, as well as the membership of three councillors, make
BEPAC more likely than the BCCC to able to provide input into policy decisions and encourage
climate change policy, this has not been the case in reality. In this vein, Michael Hoy,
Environmental Planner, suggests that because BEPAC reports to the PDD committee, which in
turn reports to meetings of City Council, BEPAC's minutes and recommendations get lost in the
layers of reporting (Hoy 2013, Interview). Further, members of the committee told me that the
group rarely proposes measures or programs, but rather their main activity is to listen to
presentations by staff and occasionally members of the public (Laing 2014, Interview; Sim 2013,
Interview; Dykes 2013, Interview). Moreover, in an interview with a representative of the Sierra
Club, Peel Chapter, I was told that the decision to add the word "Planning" to the name of the
committee – as opposed to the more common "Environmental Advisory Committee" used in
most other municipalities – was meant to limit the scope of the committee's recommendations
and appease internal opposition to the creation of the group (Sierra Club Peel 2014, Interview).

Neither BCCC nor BEPAC can be described as independent within the Brampton
administration. They are not part of the permanent bureaucratic structure, but rather exist in an
ambiguous space between the political and administrative worlds. Neither committee has a
budget to allocate to programs, and neither can take any action without explicit Council
approval. Moreover, BEPAC is firmly linked to the Planning department.

The lack of independent institutional capacity for environmental policy at the City of
Brampton, coupled with the absence of meaningful climate change policy, is consistent with the

primary argument of this dissertation. However, as demonstrated below, the evidence is also consistent with the main alternative hypothesis about the role of individuals.

4.3.3   Alternative Explanations

Evidence from Brampton supports some of the alternative explanations posited in Chapter 2, and is inconsistent with others. This evidence is discussed below.

4.3.3.1   Policy Champions

I did not encounter any evidence that suggests that the policymakers in the City of Brampton who would be pivotal in the adoption of potential climate change policy measures believe in the importance of municipal government action to mitigate climate change. This is not to say that no one within the bureaucracy cares about climate change, or that no one works towards climate policy. Rather, I suggest that those that are in the more important decision-making positions are either committed to other environmental issues or do not prioritize sustainability at all.

As noted above, former long-time Mayor Susan Fennell primarily focused on the fiscal and economic record of the City of Brampton. This has come at the expense of other issues. David Laing suggests that Fennell does not see environmental stewardship and climate change as priorities, and while she has said that she is supportive of the idea of Brampton being "liveable city", she did not demonstrate that she understood how that might occur and did provide leadership in that direction (Laing 2014, Interview).

Of recent Brampton councillors, John Hutton, one of three Council representatives on the Brampton Environmental Planning Advisory Committee (BEPAC), discussed above, is most concerned about the environment. He worked for many years as a gardener and nursery owner, and is a long-time member of the Credit Valley Conservation club. When asked, he self-

identifies as an environmentalist, and is proud of the new mixed-use and transit-oriented development in his wards: the new sub-division of Mount Pleasant (Hutton 2013, Interview). In his biography posted on the City of Brampton website he states that his "education, occupation and lifestyle have made [him] a strong advocate of environmental protection" (Brampton n.d.c.). Despite this, climate change is not a particularly important issue for Councillor Hutton. He says that he is primarily concerned with nature conservation and the protection of local watersheds (Hutton 2013, Interview).

Moreover, Hutton was most concerned about local issues in his own wards. He focused on seeking solutions for the needs of his constituents, but rarely advocated for change. For example, he regretted that the wards had grown too big for him to know everyone personally, but he was not pleased with the decision to redistrict the City so that he would have fewer residents to represent. And, while he may have supported various environmental causes in principle, his response to suggestions about changes to policy at the City – for example, improvements in cycling infrastructure or creating a green roof policy – was to argue that before any action be taken or the matter be brought before Council, it should be first reviewed by staff "to see what we can do and what we can't do" (Danko 2013). At a minimum this deference to the bureaucracy suggests a lack of willingness act as champion, and also suggests a lack of strongly held personal beliefs on this particular issue.

In general, attitudes of Brampton staff also reflect a pattern in which climate change and greenhouse gas reduction are not considered priorities. I have encountered no evidence to suggest that in the past ten years any City Manager or department Commissioner has considered climate change to be an important issue to be prioritized by the city government. Moreover, climate change is not mentioned in any of the city's major planning documents, including the

Official Plan. David Waters, Manager of Land Use in the Department of Planning, Design and Development, says that Brampton's "Official Plan is silent on this [because it] is beyond the jurisdiction of municipalities" (Waters 2013, Interview). He suggested that there had been some efforts to take some small steps at the Region of Peel, at the Conservation Authorities, and by Dale Pyne in the City's facilities section (see below), and that it would probably be considered in the Official Plan review, but he was "not sure what you can do beyond motherhood – broad statements [of support for action]" (Waters 2013, Interview).

Dale Pyne, mentioned by Waters and several others I spoke with, is an exception to this rule. He has long been a champion of municipal climate change policy in Brampton. He and the two other staff members who hold sustainability-focused positions in the Brampton administration – Susan Jorgenson, Manager of Environmental Planning and Michael Hoy, Environmental Planner – believe strongly in the necessity for Brampton to reduce its greenhouse gas emissions both in the community and within its own corporate operations.

Pyne has spearheaded energy efficiency and energy conservation measures at the City of Brampton since he began working for the City as Manager of Corporate Facilities in 1994. Over the years he has moved up in the bureaucracy and with his training as a Certified Facility Manager has helped the City to streamline the management of its buildings and facilities and has made energy management a strong focus in this area – particularly since 2002 when he was in charge of the Corporate Properties division. The energy group mentioned above was established by Pyne in the late 1990s. It had fluctuating funding and staffing until 2009 when he was able to hire full-time staff and received a mandate to prioritize energy management (Pyne 2014, Interview).

Pyne argues that with regard to views about energy conservation, Brampton staff members fall into three equally-sized groups: the first third is made up of early adopters and those who are fully supportive of energy conservation "who probably live it in their own life" (Pyne 2013, Interview). The next third have to be sold on the issue – they can be convinced that energy conservation is a good idea through seeing the success of completed projects. The final third are the laggards. They say to Pyne and his colleagues in the energy group: "Don't bother me. Don't rock the boat. It's worked this way for years and it will continue to work" (Pyne 2014, Interview).

In order to convince his colleagues to adopt energy conservation measures, Pyne has learned that the key message to communicate to his colleagues in other departments is that energy management and energy conservation will save money. For those who are resistant to energy conservation projects, he says, the argument has to be about saving money through reducing kilowatt hours per square foot. Arguments about reducing greenhouse gas emission come second, if at all. Pyne and his colleagues have to demonstrate, through successful projects, that they are not being obstructionist. They have to prove, project by project, that energy conservation does not reduce the functionality of facilities, and that they are not simply being obstructionist.

In 2008 and 2009 when he first began major consultation projects for more energy efficient construction of City buildings, he was stymied by a debate over whether the intention was for "cost savings" or "cost avoidance". The distinction is relatively meaningless, he says, but was used by opponents of energy management within the bureaucracy who used it as a way to "get a project to keep going without having to stop to incorporate energy conservation principles.

It was spin-doctor stuff," he says. "They were saying 'We don't want to put money into this'" (Pyne 2014, Interview).

Despite his efforts – and his success across multiple projects and departments in capturing, as he puts it, "most of the low hanging fruit" (Pyne 2014, Interview) – Pyne simply does not hold a position from which he is able to effect broader policy changes. While he was hopeful that the implementation of the Government of Ontario's Regulation 397/11 under the *Green Energy Act* and the approval of the City of Brampton's Environmental Master Plan (Brampton 2014a) would result in greater strides towards energy conservation and greenhouse gas emission reduction, to date there is no City-wide policy that reflects his personal concerns about the risks of climate change.[62]

Likewise, environmental planners Jorgensen and Hoy were cited by several of the people I spoke with as the key figures pushing forward environmental issues within the City of Brampton. According to David Laing, they "are doing a bang up job" (Laing 2014, Interview). In interviews, Hoy and Jorgenson expressed strong views and desires for greater action in a number of sustainability issue areas, but neither has the position or authority within the bureaucracy to push forward important climate policies. Furthermore, because they are only two people, they had insufficient resources to commit to many projects outside their principal task: the creation of the Environmental Master Plan (Brampton 2014a).

In sum, while there are a few individuals who promote climate policy within the Brampton administration, they do not have decision-making authority even within their areas of

---

[62] Greenhouse gas emission reductions are not the central focus of *Grow Green Brampton,* the Environmental Master Plan. They are simply included as an indicator of progress in the area of air pollution because of reporting requirements imposed by the Province and the Region of Peel (Brampton 2014a).

expertise. This makes the job of championing climate policy extremely difficult, and for the most part, ineffective. This is largely consistent with the alternative hypothesis about the influence of policy champions.

4.3.3.2   Inter-Urban Climate Change Networks

As Brampton is not a member of any inter-local climate change networks, the City's minimal climate change policy is consistent with the claim that participation in such networks increases the likelihood of adoption of high impact climate change policy, particularly if the mechanism is that these networks provide opportunities for local governments to learn from fellow members. However, Brampton's experience is inconsistent with the hypothesis that these networks promote municipal climate policy through the provision of resources to members.

The Partners for Climate Protection (PCP), a program run by the Federation of Canadian Municipalities (FCM), provides informational resources to its members but does not directly award grants or other financial assistance. Rather, members of the PCP program are encouraged to apply for funding through the FCM's Green Municipal Fund (GMF). Although it is not a member of the PCP program, as a member of the FCM the City of Brampton is eligible to apply for grants and loans through the Green Municipal Fund (FCM 2015a). And the City has taken advantage of this opportunity: from 2007-2009 the GMF financed a $25,000 energy conservation feasibility study for Brampton corporate buildings.[63] Thus, while participation in inter-local climate change networks may increase the availability of resources, in the case of the PCP

---

[63] The study included "detailed energy audits on 13 community centres and three corporate operation buildings. It identified measures to reduce energy use and greenhouse gas emissions (GHG), while isolating opportunities to improve indoor air quality. It also evaluated heating, ventilation and air conditioning systems, lighting, automated lighting control, daylight harvesting opportunities and building envelope improvements. Measures for reducing water consumption were studied to further identify energy efficiency opportunities. Renewable energy potentials, such as the use of solar and wind technologies, were considered" (FCM 2015b).

financial resources are available to non-members as well. Therefore, it is unlikely that participation in inter-local climate change networks would make a substantial difference to the City's decisions about climate change policy.

4.3.3.3 Electoral Systems

Politicians on Brampton City Council seem to be primarily motivated by serving their constituents and representing their wards: "issues", including climate change, are generally secondary to these personal connections (Jorgenson 2013, Interview). In interviews, councillors talked about being inspired to participate in local politics by a desire to address the needs of their neighbours, and how they continue to fight for the interests of the citizens in their wards. For example, Councillor John Sprovieri told me about his original priorities on Council including fixing drainage problems for houses in his ward and improving the safety of rural roads in his ward by installing all-way stops and using a different type of material for gravel roads. More recently, Sprovieri has been fighting against local tax increases and for new infrastructure in his wards – such as the new Gore Meadows Community Centre (Sprovieri 2013, Interview). Councillors' focus on service to their constituencies at the expense of global or ideological actions is consistent with the hypothesis that the ward-based electoral system discourages climate change policy because it does not fit neatly into councillors' geographically oriented electoral priorities.

4.4 Testing the Hypotheses in Specific Policy Areas

In this section I trace the processes of climate policy adoption in Brampton from 2002-2014 in the specific areas of fleet management, cycling infrastructure, and green building

regulation. Landfill gas capture is not considered here as waste management is a responsibility of the upper-tier municipality, the Region of Peel.[64]

Because Brampton does not have many climate change policies, the case provides an opportunity to explore the underlying argument that political economy factors reduce the likelihood of the adoption of climate policy. Close examination of climate policies in these three issue areas suggests that, as expected, political economy factors shaped their adoption or non-adoption in Brampton. Moreover, in the City of Brampton there is no independent administrative department dedicated to environmental or sustainability concerns. This consistent with the hypothesis that suggests that independent environment departments facilitate climate change policy adoption. However, as above, I cannot rule out a number of the alternative hypotheses – in particular the hypothesis regarding the role of policy champions as the evidence is also consistent with the empirical predictions of that explanation.

4.4.1 Fleet Management

Decisions regarding fleet management can have an important impact on municipal government's corporate GHG emissions reductions. By definition, the scope of the policy is limited to the vehicles owned or operated by the City, but the content of the policies chosen are not fixed, and they may be more or less coercive with regard to their application to the line departments that make use of the vehicles. Due to this limitation in scope, internal green fleet

---

[64] John Sanderson, Brampton Regional Councillor and unsuccessful mayoral candidate in 2014, was the Chair of the Peel Waste Management Committee (2011-2014). The region owns a number of landfills, some of which have been outfitted with landfill gas capture infrastructure. In all cases the gases collected are flared rather than used for electricity co-generation or heating or cooling. As the scope of this study is limited to single-tier and lower-tier municipalities, this chapter will not consider landfill gas capture policies at the Region of Peel, despite the fact that this encompasses the waste generated in the City of Brampton and representatives from Brampton may influence policies in Peel. In itself, the exclusion of this policy from analysis does not suggest that Brampton has less climate policy than other cities.

policies have little effect on business and citizen well-being or behaviour. As a result, and as noted in Chapter 3, I thus expect that the only relevant political economy factor will be financial considerations of the local government itself (Hypothesis 5).

This is what we observe. Despite the climate change focus of the formal Green Fleet Program, the City of Brampton's green fleet activities are relatively minor, and are consistent with the empirical predictions of the theory advanced in this dissertation, as presented in Chapter 2. Consistent with the predictions of the theory of political economy factors discouraging climate policy, staff and councillors actively sought to reduce costs and balance budgets and much of the reasoning for green fleet activities was related to cost reduction, although environmental protection and greenhouse gas reduction were also mentioned throughout the 2002-2010 period. Although the Green Fleet Program is an overarching sustainability-focused strategy that provides a framework for future action, it was developed after the implementation of all of the programs it recommends.

Because the central purpose of green fleet policies (reducing GHG emissions) and a primary goal of fleet management agencies (reducing costs) can be achieved easily and simultaneously by increasing the fuel efficiency of fleet vehicles and therefore reducing the amount of fuel bought and burned. It is therefore difficult to determine the genuine motivations of policy makers in this regard. In this case, however, the evidence suggests that while climate change goals may have been a consideration for some Brampton policymakers, cost savings were the primary reason for the adoption of green fleet measures. There is no indication that public opinion, public attention or business influence (either explicit or implicit) had any effect on the policy outcomes.

The Fleet Services Division is in charge of deciding the composition of Brampton's corporate fleet and the operation of City vehicles. As one of five divisions of the Department of Works and Transportation "Fleet Services is responsible for the provision, maintenance, training and compliance of City-owned vehicles and equipment for all City Departments, excluding Fire and Transit Services" (Brampton 2013b, 4). In 2010 Fleet Services staff presented a report to Council outlining the division's "Green Fleet Program" and asking for official approval. The report argued that six principal activities would be used to achieve the program's goal of "seek[ing] emission reduction opportunities in a cost effective and environmentally sustainable manner" (Chiaravallotti 2010, 9):

- Reduce the average age of equipment through a sustainable replacement program
- Right sizing of equipment and specifications to meet operational needs
- Explore and implement emerging technologies to reduce environmental impacts
- Explore and use alternative fuels
- Heighten awareness of fleet related environmental issues through training and procedures
- Quantify the results   (Chiaravallotti 2010, 1-2)

The report recommended that Council approve "the continuation of the Fleet Services Division's activities to reduce the environmental impact of operating the City's fleet through a pragmatic fiscally sustainable approach focused on meeting operational needs while introducing solutions that reduce the City's carbon footprint" (Chiaravallotti 2010, 8). While the report presents this as an integrated strategy, as will become clear throughout the remainder of this section, it emerged from a series of *ad hoc* decisions from 2002 to the time of the report. These include the use of biodiesel, the purchase of hybrid vehicles and smart cars, and the process of "right-sizing".

All of Brampton's green fleet actions taken between 2002 and 2014 reduce costs for the City. Since 2002 the City has used bio-diesel to power all Brampton Transit buses and diesel-fueled vehicles such as pick-up trucks, street sweepers and road graders (Douglas 2006a). Bio-

152

diesel is a mixture of traditional petroleum diesel and fuel derived from organic sources. Burning this type of fuel results in fewer greenhouse gas emissions than fuel made without organic material. The higher the concentration of organic-based fuel, the lower the emissions produced by the vehicle.[65] Interestingly, Alex MacMillan, former Commissioner of Works and Transportation, told the *Brampton Guardian* that financial considerations were not the motivation for this decision. MacMillan was reported to have said that "[t]here's only one reason for doing this. We're not trying to save money or improve engine efficiency. We just want to drastically reduce smog-causing emissions" (Funston 2002). Note that while preventing "smog-causing emissions" is not financial justification for the Green Fleet Policy, air quality concerns, including smog, are conceptually distinct from concerns about climate change.

However, it was clear when this announcement was made that switching to biodiesel would mean both cost and emissions reductions. The provincial government had already announced that it would be reducing the tax on biodiesel by 14.3 cents per litre – significantly more than the two cent premium paid by the City in the first half of 2002. This savings would cover the initially higher cost, and make biodiesel more than 12 cents per litre cheaper than wholly petroleum-based diesel (Funston 2002). This kind of savings would be attractive to a Council primarily concerned with financial considerations.

---

[65] The percentage of organic based fuel in the mixture is noted in the name given to the type of fuel. "For example, 'B-10' bio-diesel equates to 10% bio product and 90% petroleum diesel" (Chiaravallotti 2010, 7). The local paper, the *Brampton Guardian*, reported that the City began with a two-month trial of B-20 fuel, resulting in emissions reduction of 24% (Funston 2002). There was also a plan to test B-50 for three months from July to September. While B-50 fuel results in fewer emissions than lower concentrations of organic-based fuel, Works and Transportation Commissioner Alex MacMillan noted that it "has a tendency to gel in cold temperatures" (Funston 2002) and so would not be used in the winter.

In early April 2006, the *Brampton Guardian* reported "the start of the city's plans to build a 'green fleet'" (Douglas 2006a) through the purchase of ten low emission Smart cars to be used by bylaw enforcement officers, six hybrid sedans to be used by licensing officers, as well as two low-emission street sweepers (Douglas 2006a). Director of Fleet Services, Chris Chiaravallotti, told the press that the city decided to buy these vehicles because of "the combination of rising fuel prices and the recent doubling of the Provincial hybrid tax credit" (Douglas April 2006). From article and the comments made by policymakers, it seems that the main purpose of the purchase was to reduce costs, and the secondary aim was to be "environmentally responsible" (Douglas 2006a).

The focus on cost savings in the context of the green fleet policy is illustrated most starkly by Fleet Services' "lifecycle emissions calculation model" which allows staff to "quantify the forecasted operational cost savings against the capital cost premium to answer the question: Can the fuel savings offset the extra cost of the vehicle and how much will emissions be reduced?" (Chiaravallotti 2010, 5). Using this model Fleet Services makes "fiscally responsible, environmentally beneficial decision[s]…. [Hybrid vehicles are] added [to the fleet] provided they meet the above test" (Chiaravallotti 2010, 5). In other words, GHG emission reducing technologies are only employed if they will be cost neutral (or lead to savings).

Prior to 2005, the Fleet Services Division was allocated $1 million annually for replacing aging vehicles. Because the average price of a fleet vehicle was $58,000, few vehicles were replaced in each year, resulting in an average vehicle lifecycle of 25 years. In the Green Fleet Program report, Chiaravallotti argues that "the result was an aged fleet that was technologically outdated and unreliable with numerous unplanned failures that negatively impacted the ability to provide municipal services" (Chiaravallotti 2010, 4). Between 2006 and 2009 the Fleet Services

154

Division replaced 58% of the fleet with "right-sized" vehicles – newer, more fuel efficient, and of a size suited to operational needs – and began to use a new fuel management software to "effectively and efficiently review and evaluate operational performance" (Chiaravallotti 2010, 8). This overhaul required a substantial upfront investment that would only be paid back in the medium-term (over the lifecycle of the vehicles purchased), but also allowed for the reduction of the annual fleet operating budget by $600,000. While this type of spending is generally difficult for politicians given their short time horizons based on the electoral cycle, the investment may have been facilitated by the long tenure of most councillors, a recognition of the earlier underfunding, or a series of critical internal audits from 2004 to 2006 which pointed to poor oversight and management of the City fleet. In this way, updating the fleet could be understood as good fiscal management.

The above evidence is consistent with the political economy hypothesis that city officials are centrally concerned with cost savings and will implement policies that do not impose net costs on the local government. Evidence from Brampton is also consistent with the hypothesis about public attention. As measured by Google Trends data (see Figure 4.2, below), public attention seems not to be an important driver of green fleet policy in Brampton. The first mentions in the local newspaper of the efforts to build a green fleet occurred prior to the peak in public attention in 2007, and the formal green fleet plan was adopted much afterwards in mid-2010. It is possible that this final adoption was prompted by the uptick in public attention that corresponded with the global climate change negotiations in December 2009, but this seems unlikely. Given that the first efforts took place nearly five years earlier, it seems more plausible that, if this were a relevant determinant of policy, we would have seen the green fleet policy emerge following the much larger peak in public attention in 2007.

155

Figure 4.2 Green Fleet Policy and Public Attention to Climate Change in Brampton
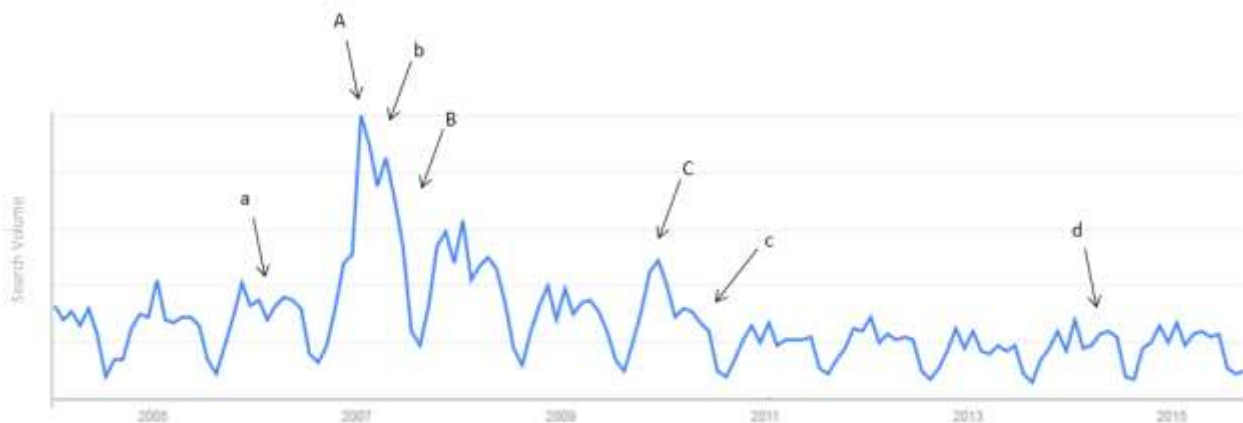
Search terms: "climate change" + "global warming"
Municipal Events: a = First mention of the City's efforts to build a "green fleet" in the local newspaper; b= Creation of Brampton Environmental Planning Advisory Committee (BEPAC) formed; c = Adoption of Green Fleet plan; d = Adoption of the Brampton Environmental Master Plan
Provincial, Federal and International Events: A = Announcement of federal *Turning the Corner* plan; B = Adoption of Ontario's climate change action plan; C = COP 15
Data source: Google Trends. See Figure 4.1 for methodological notes on this data.

Public attention, as measured by mentions of fleet management or green fleet in local newspapers or by instances of lobbying by citizens is likewise minimal. After the article published in the *Toronto Star* in July 2002 about the announcement of the switch to biodiesel, the next mention of Brampton's fleet management was in August 2005, when a citizen wrote a letter to the editor arguing that the City should use smaller vehicles. "How about trading in the fleet of luxury vehicles for a fleet of compact cars that will save the Brampton taxpayer when you go to fill-up?" (Foster 2005). While this letter was written at a time when Council and the public were debating the merits of a city-wide anti-idling by-law, the focus of the letter writer's concern was not air pollution or health, but rather the cost of operating larger than necessary vehicles, which he saw "as a waste of taxpayers' money" (Foster 2005). Aside from this letter, there is no evidence of any participation or lobbying by citizens or interest groups. There is also no evidence of any direct or indirect business influence. This is not surprising given that the policy does not impact the business community in any way.

156

The official Green Fleet Plan, adopted in 2010, was created subsequently to all of the measures it proposed. In 2009, E3 Fleet, an independent environmental organization, audited the Brampton fleet and concluded that the changes made since 2006 had been successful. E3 Fleet concluded that the City's "fleet is a 'well managed asset' and [that the] 'fleet's average age is very low, availability and fuel economy are higher than average and…greenhouse gas emissions are significantly lower than average for Ontario municipalities'" (Chiaravallotti 2010, 9). In the wake of this positive audit, the Fleet Services Division presented a "Green Fleet Program" to be endorsed by Council. When the Committee of Council received the report on April 21, 2010, councillors had several questions for staff regarding both the technologies chosen[66] and the costs involved. In terms of costs, the councillors wanted to know about the cost reductions achieved from right-sizing and maintenance, the costs of vehicle replacement, and in particular the price premium of hybrid vehicles. Chiaravallotti and Tom Mulligan, Commissioner of Works and Transportation, seem to have successfully convinced Councillors of their position, as the Committee passed a motion to receive the report and endorse the Green Fleet Program without any changes (Brampton Committee of Council 2010, CW124-2010, 20). This motion was approved by the full Council on April 28, 2010 (Brampton City Council 2010, 38).

The 2010 Fleet Services report concludes that "[t]he [Fleet Services] Division remains committed to continuous improvement by working jointly with operating departments and pro-actively seeking opportunities that further reduce the City's carbon footprint in a fiscally responsible and accountable manner through the Green Fleet Program" (Chiaravallotti 2010, 9).

---

[66] Some councillors wanted to investigate the possibility of using natural gas-powered vehicles rather than biodiesel, to which staff responded that such research could be undertaken, "but municipal fleet experiences to date with natural gas vehicles suggest limitations due to [cold] climate conditions in areas like Brampton" (Brampton Committee of Council 2010).

This is the only mention of the term "carbon footprint" I encountered in the Brampton context. There are a few mentions of climate change in the Environmental Master Plan, but in that context GHG emission reductions are used as an indicator of progress in the area of air pollution because of reporting requirements imposed by the Province and the Region of Peel (Brampton 2014a). The concept of carbon footprint is absent.

Despite the climate change focus of the Green Fleet Program, its adoption is entirely consistent with the theory. Despite its name, it does not make any changes to activities undertaken by the Fleet Services division. Instead, it simply packages all existing activities and procurement into a coherent strategy, thereby providing *post hoc* environmental justification for these actions. Regardless of the environmental beliefs of Chiaravallotti and other staff members, the result is that Council was simply asked to publicly acknowledge the environmental benefits of actions they had already approved on financial grounds. It is therefore unsurprising that they agreed.

4.4.2 Cycling Infrastructure

As discussed in Chapter 3, building cycling infrastructure is a form of climate policy to the extent that it encourages citizens to replace car trips with bicycle trips. I focus on separated bicycle lanes and cycle tracks in particular because they are likely to have a higher impact on greenhouse gas emissions than other types of cycling infrastructure as their creation involves larger changes to the physical urban space and thus legitimizes cycling as form of transportation equivalent to automobiles. Moreover, the scale of change such lanes is more difficult to reverse than for signed routes, sharrows, or painted lanes and thus represents a commitment to a long-term policy promoting mode-switching and reducing community greenhouse gas emissions in the city.

In this section I explore the considerations and decisions that have been made in the area of bicycle infrastructure, and why cycle tracks – physically separated bicycle lanes – were not chosen. The evidence supports the hypothesis that political economy factors have prevented the City from implementing this type of high impact infrastructure and from committing to a policy to maximize mode-switching away from fossil-fuel burning vehicles. Moreover, there is no independent environment department that might have allowed the City to overcome these disincentives. While I find evidence that there was minimal public support for or opposition to bicycle lanes, politicians responded to the opposition but not to the support. I also find evidence that politicians and bureaucrats perceive that cycling infrastructure is not a priority issue for citizens – in other words, that it is of low public salience. As a result, existing cycling infrastructure has been justified by reasons other than a perceived demand. There is no evidence of business influence in this policy area, either implicit or explicit.

While cycling is mentioned in the City's *Official Plan* (2006) and also is included in the *PathWays Master Plan* (2002), there is very limited cycling infrastructure available to residents. While the provincial *Highway Traffic Act* permits cycling on all city streets, only six short stretches of road have designated bicycle lanes painted on the roadway, adding up to about 3 km (Cadete 2013, Interview). There are also multi-use pathways – three metre wide lanes along the side of some major roads and in recreational areas – that are shared by all non-motorized traffic. These are much more common along east-west routes, and like the bicycle lanes, tend to be poorly connected to one another or to common cycling destinations. To encourage multi-modal transportation, some Brampton Transit buses are outfitted with bicycle racks and there are some bicycle parking and storage facilities near transit stations.

Examination of reports, plans, and meeting minutes as well as interviews with City policymakers has revealed two phases of the discussions and implementation of bicycle infrastructure in Brampton – the first, from approximately 2002 to 2010, was almost exclusively focused on recreational cycling. The second period, with a focus on utilitarian or destination cycling, began only in 2011, and culminated with Council approval of the *Bicycle Facilities Implementation Plan* (BFIP) in May 2013.

The 2002 *PathWays Master Plan* is the key strategic document in the first period. Promotion of recreational cycling is not included as climate policy in this analysis as there is no intention by policymakers or citizens to replace automobile trips with bicycle trips. In this period, there were two exceptions to the focus on recreational use: the implementation of a few on-street bicycle lanes in residential neighbourhoods, and the addition of bicycle racks to city buses along with bicycle parking facilities at major transit hubs. Consistent with the theory advanced here, these projects were the result of political economy considerations unrelated to climate change mitigation.

The transit-related cycling infrastructure was not an internally-motivated decision by politicians or bureaucrats in Brampton. Instead, it was the result of funding from a provincial arms-length transit agency: Metrolinx. In April 2008, Mayor Fennell announced that Brampton was to receive funding from the Province of Ontario through a number of specific programs, including the Metrolinx BikeLinx Program. The Council passed a motion to create By-law 92-2008 that affirms that the City will use the funds from the BikeLinx program to "purchase and install bicycle racks on buses as well as secure and safe bicycle parking as defined by Metrolinx" with the further acknowledgement that the Province of Ontario will deduct this amount from future transit funding if "the municipality is found not to be in compliance with the terms set out

by Metrolinx" (Brampton City Council 2008a, 9). There was no discussion of this motion at the Council meeting.

Sue Connor, Director of Brampton Transit, argues that while the transit department had briefly considered a similar program, they had concluded that there would not be enough demand and that funds would be better spent elsewhere (Connor 2013, Interview). However, the infusion of outside funding from Metrolinx made the decision uncontroversial. A request for proposals was put out and was officially awarded at a Council meeting in December 2008, subject to approval in the 2009 budget. Again, there was no discussion: the item was one of five approved together as a part of the consent motion at the beginning of the meeting (Brampton City Council 2008b). Connor noted that Brampton Transit was pleasantly surprised by uptake of the program and that many more residents than expected used the bus-mounted bike racks and the bike lockers located at transit hubs (Connor 2013, Interview). While this outcome suggests that there was more public support for bicycle infrastructure than policymakers realized, the evidence points to financial concerns as the motivation for decisions in this domain.

There is also no indication that decisions about cycling infrastructure were influenced by public attention to climate change. All decisions to create and remove cycling infrastructure were made at times when climate change was of low salience (see Figure 4.3, below). For example, the first on-street bicycle lane in Brampton built in 2005 was motivated by concerns other than cycling infrastructure needs or climate change. This, and other lanes built prior to 2011, was a response to local demand for traffic calming. In May 2005 councillors reviewed a report by staff recommending the creation of dedicated bicycle lanes along a short stretch of Birchbank Road for the purpose of traffic calming in the area. There is no mention of the impact of the lane on cycling volumes or its connectivity to other cycling routes. The committee did not discuss the

161

content of the report, councillors asked only whether it was a "one-time initiative, or part of a City-wide program" (Brampton City Council 2005). Staff responded that this was the only proposal at the time, but that a staff committee was examining the possibility of creating bicycle lanes in other areas of the City. At this point, the councillors passed a motion to adopt the recommendations, including a minor by-law change, and for staff to report back a year later about the outcomes of the changes. This motion was adopted and the by-law was amended without discussion at the City Council meeting five days later.

Figure 4.3 Cycling Infrastructure and Public Attention to Climate Change in Brampton
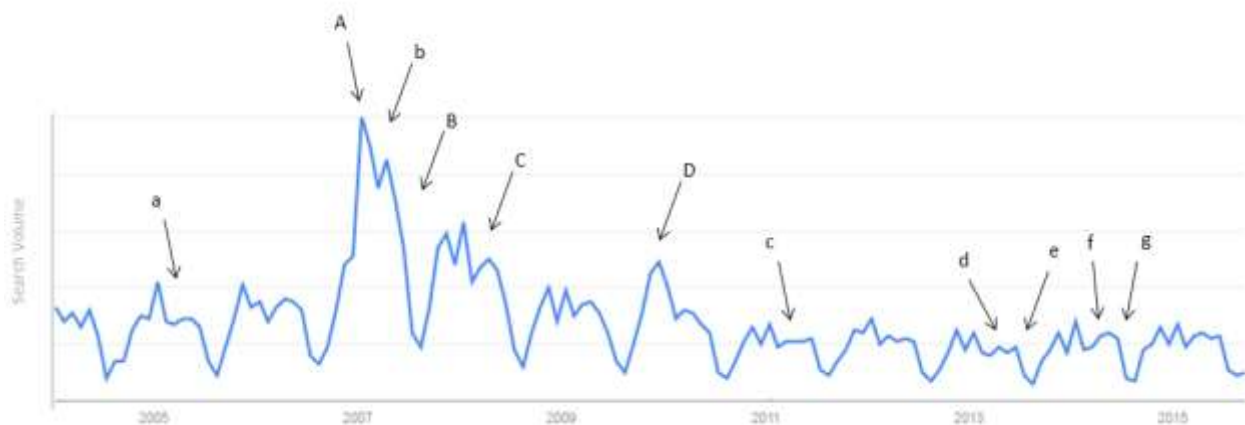
Search terms: "climate change" + "global warming"
Municipal Events: a = Construction of first bicycle lane; b= Creation of Brampton Environmental Planning Advisory Committee (BEPAC) formed; c = Direction from Council for creation of Bicycle Facilities Implementation Plan (BFIP); d = Presentation of BFIP report to Council; e = Installation of Fletcher Creek bicycle lane; f = Environmental Master Plan adopted by Council; g = Removal of Fletcher Creek bicycle lane
Provincial, Federal and International Events: A = Announcement of federal *Turning the Corner* plan; B = Adoption of Ontario's climate change action plan; C = Announcement of Metrolinx funding for cycling infrastructure; D = COP 15
Data source: Google Trends. See Figure 4.1 for methodological notes on this data.

Just over a year later, on June 21, 2006, a meeting of the Committee of Council adopted a motion by consent (without vote or discussion) to receive a number of staff reports, including one entitled "Follow-up to Birchbank Road Bicycle Lanes – Ward 8". In their report, staff note that the changes made to Birchbank Road were successful in terms of their traffic calming aims, as studies "revealed a decrease in vehicle speeds and overall traffic volume" (Parks 2006, 3).

There is no mention of their success in terms of cycling objectives, and no indication that councillors paid attention to the update.

Moreover, until 2013 there was very little lobbying in favour of bicycle infrastructure in Brampton. One exception was a brief presentation by a resident in 2008 at a meeting of the Planning, Design and Development Committee in which the committee considered an application by a developer to amend the official plan in support of a new neighbourhood development project. As part of his presentation, the resident asked that the new plan include bicycle paths to link commercial and public open space areas (Brampton PDD 2008, 13). While this neighbourhood was approved and built, there are no official bicycle paths or lanes in the area, and other than the one presentation the issue seems not to have been discussed.

One way that public opinion can be communicated to policymakers is through lobbying by interest groups. Formed in the spring of 2013, the Brampton Bicycle Advisory Committee (BBAC) is a grassroots organization formed to encourage cycling in all forms in the City of Brampton. It seeks to perform three main functions:

1. Until the city appoints a cycling coordinator position, BBAC [will] act as a focal point and advocate for cycling issues which currently are managed across multiple city departments. BBAC will continue in its advocacy role even after city staff is appointed.

2. BBAC [will] act as a community outreach organization to increase awareness and support for cycling and cycling infrastructure investment in the city.

3. BBAC [will] act as a feedback point for cycling issues in the city and work with city staff to help prioritize those issues based on user feedback. (BBAC 2013a, 1)

The organization made a presentation to the Committee of Council in May 2013 confirming of the poor state of affairs of Brampton's cycling infrastructure. BBAC Chair David Laing argued that that the City's cycling network is poorly connected, does not lead to useful destinations, and that bicyclists are at a disadvantage relative to others on multi-use pathways. He also suggested that the City of Brampton should apply for a Bicycle Friendly City designation in order to increase awareness of the state of cycling infrastructure in Brampton (Laing 2014, Interview). This was the first instance of a delegation to Council aimed at convincing the municipal government to increase the availability and quality of cycling infrastructure for transportation purposes.

Laing's delegation to the meeting of the Committee of Council was specifically timed to be at the same time as the presentation of the staff bicycle infrastructure strategy. In late February 2013, Laing had met with his local councillor, John Hutton, to request support for his cycling agenda. Hutton told Laing that staff were preparing a report on bicycle facilities to be presented to Council that spring (Laing 2014, Interview). He advised Laing to wait until that point, because then staff would be ready to discuss the issue and would have answers for Council (Hutton 2013, Interview). Hutton says that councillors will often ask staff for information, and if it is not available they will vote to defer the issue until the answers are ready (Hutton 2013, Interview). For this reason, Laing presented BBAC's position to Council at the same meeting as staff from Works and Transportation presented their report on the new *Bicycle Facilities Implementation Plan* (BFIP).[67]

---

[67] The BFIP committee was formed in 2011 as a collaboration between the Department of Works and Transportation and the Department of Planning Design and Development. This staff committee was tasked with devising a long-term strategy for the creation of bicycle infrastructure within the road allowance – in particular creating better links

While this lobbying strategy has the advantage of using Council time efficiently, it reduces the potential influence of citizens and interest groups on City of Brampton policy, as public input is not received by staff until planning is complete.[68] For example, while Laing suggests that he and his group were influential in convincing the City to apply for Bicycle Friendly Community status (Laing 2013, Interview),[69] Nelson Cadete, one of the authors of the BFIP strategy, argues that Laing's intervention was too late to influence the content of the report. He says that when they were writing the final report "I had just met with David. At that time he was just starting to put together the [BBAC] group." According to Cadete, the decision to apply for Bicycle Friendly Community status had already been made (Cadete 2013, Interview).

The late emergence of BBAC was perceived by policymakers as a lack of public support for cycling infrastructure in Brampton. As Nelson Cadete explains,

> We don't have a cycle track. It's the perfect example of *huge* infrastructure cost to create
>
> something that the benefits aren't going to be realized in Brampton because we don't
>
> have that need or that push – that drive – from a cycling group. We don't have that push
>
> to go that far, nor is there a demand. We don't have the cycling trips to support that sort
>
> of thing. (Cadete 2013, Interview)

---

for both recreational and utilitarian users – including consideration of active transportation and external influences from the Region and the Province. They were also responsible for devising short term improvements to current cycling infrastructure.

[68] This sequence of events is consistent with Hutton's response to Bart Danko regarding a proposal for a green roof policy, discussed below. As a response to the delegation on pedestrian and cyclist safety in April 2012, the Committee instructed staff to consider these issues as part of BFIP, but the impact of this is unclear. I do not know whether this had any influence on the actual strategy, or whether it was simply a way for the Committee to acknowledge the comments and indicate that they agreed with the sentiment.

[69] This designation is awarded by Share the Road, an Ontario NGO that encourages cycling as transportation throughout the province.

Cadete was also a member of the *Ontario Traffic Manual Book 18* Technical Committee, a committee formed by the provincial government to establish official best practices for cycling infrastructure. He saw his job as ensuring that the recommendations were appropriate for all types of municipalities, not just cities with dense downtown cores like Toronto. He explicitly opposed the designation of cycle tracks and on-road lanes as best practices.

> We didn't want to lean that way. We wanted to still have the option to say "we're not comfortable mixing cyclists." Brampton is very industrial with lots of heavy trucks. It's a suburb. It's not a downtown Toronto where there [are] a lot of cyclists…Brampton is a different animal." (Cadete 2013, Interview)

This position is consistent with the view that cycling is not a mode of transportation equivalent to motorized vehicles; however, it is puzzling coming from a cycling infrastructure professional, especially with regard to cycle tracks. One of the major advantages of this type of infrastructure is the physical separation of cyclists from motorized traffic. Experts in cycling infrastructure often argue that these lanes are popular, precisely because they are thought to provide a safe space for less experienced and more vulnerable cyclists (Toronto Public Health 2014).

The view that Brampton residents are not cyclists was repeated by David Waters, Manager of Land Use in the Department of Planning, Design and Development. When asked about cycling in Brampton, he said that there are some bike paths and some people who cycle, but he is not sure if anyone commutes by bicycle. "It is pretty dangerous. There is a lot of truck traffic on some routes" (Waters 2013, Interview).

However, even the supposedly Brampton-appropriate solutions that Cadete and other members of the BFIP committee proposed were not unanimously accepted by Council.

166

Requesting a recorded vote, Councillor Bob Callahan voted against accepting the recommendations, but was defeated by the rest of the Councillors who voted in favour (Brampton 2013, 8). Callahan believed that cycling is a recreational activity for children, and that it is unsafe as a mode of transportation. David Laing describes Callahan as one of the City's most risk adverse councillors. For example, he worried about the City's potential liability in case of a cyclist being hurt while riding in an on-street lane (Laing 2014, Interview).

At a BBAC meeting following the Committee of Council meeting, the group agreed that "Councillor Callahan's position although based significantly on misinformation is reflective of a broad segment of Brampton residents…[and that] BBAC needs to keep up visibility to the issues identified by Councillor Callahan and the different needs of destination vs. recreational cyclists" (BBAC 2013b, 1).

This perception of public opinion regarding cycling infrastructure is supported by the case of Fletcher's Creek. In addition to feeling little pressure from cycling advocates, councillors and staff are subject to persistent opposition from citizens whose homes and properties adjoin on-street cycling infrastructure. In the neighbourhood of Fletcher's Creek, there was significant vocal opposition to bicycle lanes implemented for traffic calming purposes. The lanes were installed in August 2013 and Council responded to the opposition and decided that the lanes would be removed in August 2014 to be replaced by a different traffic calming strategy.

In areas designated for traffic calming the City hold public meetings, called Public Information Centres to explain the options available for traffic calming and then they send out a survey to the neighbourhood. In Fletcher's Creek, there were two proposed options: bicycle lanes on both sides of the street, or the creation of a parking lane. In such scenarios the City commits to the option that receives a majority of support from survey respondents. As is typical, response

167

rates in Fletcher's Creek were very low, but the majority of survey respondents preferred the bicycle lane option.

As soon as the bicycle lanes were built, however, residents realized that the new arrangement meant that parking would be restricted in front of their homes. Objecting to this loss, "they gathered a petition at that far exceeded the original response rate to the [traffic] calming survey….They went to Council and they said 'we need on-street parking'" (Cadete 2013, Interview). Council accepted this petition and instructed staff to remove the lanes and restore parking. Cadete argues, and Laing agrees, that "residents don't recognize the benefit of having bicycle infrastructure in front of their homes. They'd much rather have the opportunity to park maybe once or twice a week" (Cadete 2013, Interview).[70] They "have [a] sense of entitlement. They've been able to park in front of their homes for years [and think]: 'How can you remove that from us?'" (Cadete 2013, Interview). This example shows, according to Cadete, that "the residents are going to dictate where we go…. The residents are going to get what the residents want" (Cadete 2013, Interview), and that is not cycling infrastructure.

The case of bicycle infrastructure in the City of Brampton supports the broad strokes of the political economy hypotheses. The City of Brampton has never built a separated bicycle lane or cycle track, and has very limited other infrastructure for cyclists engaged in "destination" cycling – the type of cycling that potentially replaces fossil fuel-powered vehicles. From the 2002 *PathWays Master Plan* until the directive to staff to develop a Bicycle Facilities Implementation Plan in 2011, the focus of Brampton cycling infrastructure was on the creation

---

[70] Cadete's department studied the use of on-street parking prior to proposing the bicycle lane option. They found that there were small peaks in the morning and afternoon in front of two schools, but otherwise the on-street parking was not used.

of multi-use pathways in nature settings and parks. Cycling was seen as a recreational activity rather than a form of transportation. The few dedicated bicycle lanes in the city are part of more general traffic calming strategies and are not well linked to other cycling routes. Despite some recent efforts in the 2011-2013 period to increase the availability and convenience of cycling infrastructure in the City, there has been little change to date.

Policymakers in Brampton, both within the bureaucracy and on Council, responded to both low levels of public attention and public opposition. However, they did not respond to public support for cycling infrastructure. There is also no evidence of business influence – either direct or indirect. There is evidence that policymakers were motivated by financial concerns – for example, some cycling infrastructure was created using provincial grants, which avoided and overcame opposition on the grounds of cost. Together, this evidence suggests that the lack of separated bicycle lanes and cycle tracks in Brampton – or a coordinated, effective, and safe cycling network more generally – is the result of political economy factors. Furthermore, as established earlier in the chapter, Brampton does not have an independent environment department that might have facilitated cycling infrastructure.

However, the evidence also provides some support for alternative hypotheses: Brampton has no policymakers in pivotal positions (elected or appointed) who are personally committed to municipal climate change policy and who use their position within the administration to promote cycling for this purpose. Rather, even those in charge of creating cycling policy balk at the types of infrastructure most likely to encourage mode-switching. Additionally, the creation of transit-cycling linkages at the behest of Metrolinx supports the hypothesis of provincial influence. In contrast, there is no evidence that the electoral system had any impact on the creation of climate

policy – opposition by policymakers was uniform and the justification of opposition was stated in terms of Brampton as a whole rather than in relation to a particular district.

4.4.3   Green Building

The final specific policy area explored in this chapter is green building. The City of Brampton has no green building by-laws and no Council-sanctioned internal policies on the matter. Several projects have been built in compliance with Leadership in Energy and Environmental Design (LEED) or other sustainable building standards, including two fire stations, an affordable housing project partially funded by the City of Brampton, and the new southwest quadrant City Hall complex. As noted above, in the Department of Buildings and Property Management, the energy group has established a number of energy conservation and management practices to support green building for City-owned and operated facilities, including collecting data about energy consumption in City facilities. The group also provides consulting services to other divisions and departments to encourage them to include energy conservation and efficiency in the plans for new construction and retrofits.

The most significant green building activity undertaken by the City is compliance with the Province of Ontario's Regulation 397 of the *Green Energy Act.* As of July 2013, municipalities are required to report energy use and greenhouse gas emission for each and every City building. This information must be made public and the data for each building must be accompanied by a five-year plan to reduce consumption in that building. Municipalities are also required to report back about the success of these plans (Ontario 2011).

The City of Brampton also has no policy to encourage or require green building in the private sector. The extent of green building policy addressing community emissions is annual participation in Earth Hour, and there is little lobbying in favour of more action. David Laing,

member of BEPAC, BBAC and the Sierra Club has spoken casually to staff about the issue, and

has been told that the City does not participate in any green building certification systems

because there is controversy about which one is best and "we don't side with any one

certification system" (Laing 2014, Interview). Laing agrees that infighting among certification

systems is counterproductive, but argues that this leads to a lack of action to mitigate climate

change. It "is like rearranging the deck chairs on the Titanic" (Laing 2014, Interview). This is

borne out by the evidence: in refusing to take sides, the City of Brampton has avoided taking any

action at all.

The first proposal for a green building policy in Brampton came in November 2013. Bart

Danko, Master of Environmental Studies candidate at York University, proposed that the City of

Brampton create a Green Roof policy. Before making a formal proposal to the municipal

government, he spoke informally with several Brampton politicians and staff. Danko then made

a presentation to the Brampton Environmental Planning Advisory Committee. The committee

discussed the benefits and challenges of green roofs as a technology, as well as why the City

should adopt a policy in this area. The committee recommended that Danko arrange to make a

similar presentation to the "Committee of Council to ensure his requested actions are heard by all

Council members and appropriate staff" (Brampton BEPAC 2013, 4). BEPAC reports to the

Planning, Design and Development Committee, but did not recommend that staff at PDD look

into the feasibility or desirability of this kind of policy. Taking into account the limited authority

and mandate of BEPAC, by refusing to explicitly endorse the possibility of a green roof policy,

the committee seems to be indirectly suggesting that this is not something the City should

pursue.

171

Perhaps due in part to this minimal lobbying by citizens, green building is seen by politicians and staff to be of low public salience. The topics that are seen as most prominent are economic growth, job creation and traffic congestion (Sanderson 2013, Interview; Waters 2013, Interview). According to staff, and consistent with the hypothesis regarding perceptions of public attention, "politicians care about what is top of mind" (Pyne 2014, interview). Energy management and green building practices are not. The evidence also shows that Brampton policymakers do not make decisions about green building policy in accordance with trends in public attention to climate change. Although public attention is generally low, levels change over time, and, as shown in Figure 4.4, below, policymakers have not taken advantage of times when climate change has been relatively more salient.

Consistent with the hypothesis about indirect business influence, Brampton politicians see economic growth as necessary, dependent on increasing commercial and industrial development, and inconsistent with green building practices. The first two elements are reflected in the pride taken by politicians and staff in the City's lack of debt and high credit rating,[71] and the Development Charge Incentive Program (DCIP) which was established in 2007. Development charges are the fees paid to the City to pay for infrastructure and other city services such as roads, sewers and electrical connections. Under this program the City reduced the charges that would normally apply to permitting and building for certain commercial and industrial development proposals in order to incentivize businesses to relocate to Brampton and to increase density in the downtown area and along the Queen Street corridor (Brampton Office

---

[71] See, for example, Mayor Susan Fennell's response to the City's poor showing in the *MoneySense* magazine's 2012 "List of Best Places to Live" (Douglas 2012).

of the Central Area 2014, 4). It would have been possible to use this same policy tool to

incentivize other private sector behaviour, including explicit green building practices.

Figure 4.4 Green Building Policy and Public Attention to Climate Change in Brampton
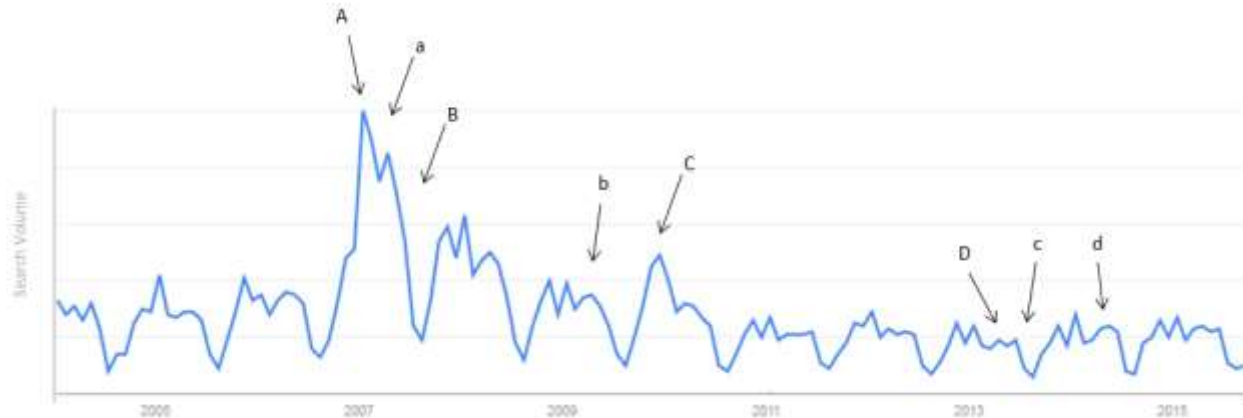
Search terms: "climate change" + "global warming"
Municipal Events: a = Creation of Brampton Environmental Planning Advisory Committee (BEPAC) formed; b = Full time staff positions created within Energy group; c = Citizen proposal of green roof policy; d = Adoption of the Brampton Environmental Master Plan
Provincial, Federal and International Events: A = Announcement of federal *Turning the Corner* plan; B = Adoption of Ontario's climate change action plan; C = COP 15; D = Coming into effect of provincial requirement for energy efficiency reporting
Data source: Google Trends. See Figure 4.1 for methodological notes on this data.

Councillor John Sprovieri's response to Bart Danko's questions about creating a Green

Roof policy in the City reflect a skepticism of the compatibility of green building with economic

growth:

> To us our big concern is the cost…to the price of homes, to the price of business, and is
>
> that going to scare away potential investors in our city because we're forcing them to do
>
> something that is expensive and may not yield the benefits that you're indicating.
>
> (Sprovieri in Danko 2013).

Councillor John Hutton's response to Danko's proposal suggests that while he might personally

support for such a policy in principle, it is not a something the City is likely to adopt. He declines

173

to pursue the matter on the political front, deferring the matter to the bureaucracy – including question of what is "possible" to accomplish at the municipal level.

> I look forward to any suggestions that might encourage staff to come up with some type of recommendations for green roof legislation or any encouragement for that. But again, I'd certainly talk to our many, several different departments in the city to see exactly what we can do and what we can't do. Because there's no point coming up with "Oh, this is what you should do," if it's impossible and can't get off the ground. But on the same token, if you can suggest things that are possible, then that's great….Even if staff says "that's difficult," well, difficult takes a little longer perhaps, but at least it's not impossible. (Hutton in Danko 2013)

Consistent with the above, the energy group in the Department of Buildings and Property Management uses the language of cost savings rather than climate change mitigation. They note that sound financial management is a top priority for Brampton citizens, and thus staff as well: "The citizens of Brampton expect us to be good stewards of their tax dollars" (Pyne 2014, Personal Communication). Thus, to achieve "change management" the Energy group pitches energy conservation strategically in order to communicate effectively with their audience, whether that be politicians, other staff or the public. For the most part, this involves avoiding the language of climate change and emissions reductions when convincing those in other departments to adopt energy management and green building practices. Instead, they tend to argue that by reducing electricity use in facilities managers can reduce operational costs. They make similar strategic choices on the rare occasions when they have opportunities to discuss green building and energy conservation with Brampton politicians (Pyne 2014, Interview). In speaking with elected officials, Pyne argues that the most important elements are

education and consistent messaging. [We must tell them that] we are not being

obstructionist; we are not impeding use of functionality. We need to cut out the

negativity, which mostly arises when people are insecure and don't have the

information…. It's not about GHGs initially. (Pyne 2014, Interview)

Mandates from the provincial government have been important to the development of

energy management and conservation within the City of Brampton. Provincial influence is

perceived to be responsible for both a lack of action on the community level and for the most

recent efforts to gather data and report on energy use in City buildings. Emissions from buildings

in the community are seen to be outside the scope of municipal responsibility. "We can only

enforce the building code," says Dale Pyne. "The City has minimal influence beyond that. With

the exception of Earth Hour, we have no mandate or staffing for looking into community energy

use" (Pyne 2014, Interview). While the Environmental Master Plan will speak to community

emissions, much will be driven by new subdivision development, and "the City can only

influence development so much" (Pyne 2014, Interview).[72]

Provincial influence has also been important in terms of reducing corporate building

emissions. Although Pyne has been actively collecting data on facility energy use for many

years, this became a provincial legislative requirement with the enactment of Regulation 397 of

the *Green Energy Act*, described above. Prior to the coming into effect of Regulation 397 in

2013, very few citizens, staff or politicians knew or cared about energy use by the City (Pyne

2014, Interview). Regulation 397 has required transparency. Moreover, because it is an annual

---

[72] There is no evidence of direct business influence in this policy domain. Perhaps this is because economic actors are confident that there is no risk of the Brampton government enacting green building policy that would apply to the private sector.

requirement, in the 2014 report the City must account for its behaviour over the previous year.

Pyne is optimistic about the implications of this for the future of energy management and green

building in Brampton. According to Pyne, the City "never cared about [energy conservation]

behaviour before" (Pyne 2014, Interview). This regulation also provides an opportunity for

information about energy use to be presented to Council, because politicians may also be

questioned about it. Pyne argues that Regulation 397 "forces energy management to be part of

the conversation. We will be compared to others and the [media] and residents can see [the

results]. We are going to be forced to demonstrate accountability in energy conservation" (Pyne

2014, Interview). Institutionally, Regulation 397 is "one of the best things that ever happened to

us in the energy group," says Pyne. "It allowed us to keep staff. They can't touch it because it's a

legislative requirement" (Pyne 2014, Interview).

In sum, the evidence presented here supports a claim that political economy factors –

primarily indirect business influence, a concern for cost savings, and a lack of public attention –

have prevented the development of an overarching municipal green building policy in Brampton.

The absence of an independent environment department is also consistent with the primary

theory of the dissertation. However, there is also evidence for an alternative explanation – that

provincial regulation has been central to the City's decisions in this area.

4.5   Conclusion

As explained in detail in Chapter 3 and noted above, process tracing methodology

involves comparing observations of the empirical world to theoretical predictions of hypotheses.

This approach provides leverage for evaluating both whether a factor causes an outcome, and if

so, how that causal process works. The implication of the evidence for our confidence in a

hypothesized mechanism depends on both the nature of the predictions (i.e., the type of process

tracing tests, discussed in Chapter 3, above) and the consistency of the evidence with the empirical predictions of the hypothesis.

Throughout this chapter I have drawn preliminary conclusions about the consistency of the above evidence with the hypotheses presented in Chapter 2. Here, I do so explicitly and systematically. I begin by evaluating the evidence pertaining to the theory of political economy factors and independent environment departments – that due to independent environment departments, local governments are more likely to overcome the political economy barriers to the adoption of high impact climate change mitigation policy. I note how the evidence supports or weakens the hypotheses associated with this theory. The next section evaluates how the evidence from the Brampton case supports or weakens the alternative explanations of policy champions, climate change network participation, electoral systems, and provincial influence. A detailed summary of the evidence and the implications for the hypotheses that result from the process tracing tests are presented in Table 4.1, below.

4.5.1   Political Economy Factors and Environment Departments

Brampton's climate change policy, both generally and in two of the three issue areas examined (cycling infrastructure and green building policy), perpetuates business as usual greenhouse gas emissions. Moreover, none of the policies considered in this chapter – including the green fleet policy – are likely to make substantial contributions to overall emissions reductions in Brampton, either at the level of municipal operations, or in the community as a whole. If this is the result of political economy factors, combined with the absence of a municipal environment department, we should observe that the evidence is consistent with the empirical predictions of these hypotheses. For the most part, this is the case.

The evidence presented in this chapter supports the claim that Brampton politicians and staff make decisions based on political economy factors: concern for good fiscal management, indirect business influence, public opinion, and public attention. However, it is inconsistent with the hypothesis that local economic actors limit the adoption of climate policy through direct intervention in the policy process.

Evidence from media coverage, administrative reports and interviews with politicians and staff strongly suggests that concerns about reducing costs for the local government are barriers to climate policy adoption in Brampton. With regard to the former, consistent with the empirical predictions of Hypothesis 5, policymakers demonstrated that they see fiscal responsibility as central to their role in government, climate policy proposals are discussed in the context of their fiscal implications, and climate policy is adopted when it is expected to lead to net savings for the local government. For example, Mayor Susan Fennell made statements extolling the fact that the City was "debt free and run like a business" (Douglas 2003a) and councillors and staff emphasized the need to be good stewards of public funds. When discussing proposals for green building policies and practices, staff indicated in interviews that they "can't use the greenhouse gas argument. It has to be in terms of money saved. Greenhouse gases don't sell or buy votes" (Brampton Staff Member 2014, Interview). Finally, the policies that were adopted in the areas of green fleet management and cycling infrastructure were expected to either have minimal costs or lead to net savings. All of these observations are consistent with the predictions of the hypothesis, and lead it to be moderately strengthened (see Table 4.1, below).

One of the empirical predictions of the hypothesis regarding the role public opinion is that politicians and staff both seek out and are interested in public opinion. This is borne out by the evidence. Policymakers observed, through direct contact with citizens and survey

178

instruments, that most citizens are not concerned about climate change or climate policy: in other words, that there is low public attention to the issue. The only exception is where, because of its impact on their property (in the case of cycling infrastructure), they are strongly and vocally opposed to it. These concerns were perceived to be widely held. The exhortations of the few citizens who do intervene to advocate for climate policy fall largely on deaf ears (for example, Bart Danko's proposal for Green Roofs and BBAC's advocacy for an integrated cycling network). Unlike opponents of climate policy, these citizens were not considered to represent broader trends in public opinion.

Contrary to the hypothesis about the direct influence of economic actors, there is no evidence that local developers or other economic actors intervened in the policy process with regard to climate policy or that Brampton's climate policy decisions were influenced by direct lobbying by economic actors. I suggest that this may be because the policy proposals were not likely to have a significant impact on such actors, and therefore it was not useful for them to speak with policymakers at the City. Moreover, evidence of economic actors' *indirect* influence was only observed in the case of green building policy. These findings are consistent with expectations of the impact of the political economy hypotheses given the policies' likely distribution of costs and benefits outlined in Chapter 3.

The findings in this chapter are also consistent with the central hypotheses about the role independent environment departments. There is no independent environment department and the citizen advisory committees – the Brampton Environmental Planning Advisory Committee and the Brampton Clean City Committee – rather than lessening the burden on environmentally-oriented staff, *added* to their responsibilities because they had to take on the administrative tasks associated with the committees' operation.

Overall, the evidence from Brampton in all three policy areas examined is consistent with the theory that political economy factors hamper the adoption of municipal climate change policy, but independent municipal environment departments can increase the probability of its adoption.

4.5.2   Alternative Hypotheses

The evidence from the Brampton case is consistent with the central argument of this dissertation, but it does not allow me to rule out any of the alternative hypotheses. In fact, the evidence provides support for some of those explanations. Primarily, the evidence was consistent with the hypothesis about the role of policy champions. While there were a few individuals within the Brampton administration who were personally committed to, and pushed for, municipal climate change action, these individuals had limited authority and their efforts to facilitate climate policy were largely ineffective.

As Brampton is not a member of any inter-local climate change networks, the City's minimal climate change policy supports the claim that participation in such networks increases the likelihood of adoption of high impact climate change policy, particularly if the mechanism is thought to be opportunities to learn from fellow network members (Hypothesis 8). However, Brampton's experience is inconsistent with the hypothesis that these networks promote municipal climate policy through the provision of resources to members. As noted above, the most popular Canadian intergovernmental climate change network, the Partners for Climate Protection program provides only informational resources, not financial aid. Financial assistance is available to all members of the Federation of Canadian Municipalities, and Brampton has taken advantage of this funding. As a result, I suggest that had Brampton been a member of the PCP program their climate policy is unlikely to have been much different.

The evidence presented above also provides some support for the hypothesis that ward systems supress local climate change policy. Consistent with the Hypothesis 9b, that ward-systems encourage councillors to focus on geographically-concentrated issues rather than more broadly defined issues such as climate change, the evidence presented above about the priorities of Brampton councillors suggests that they are indeed more concerned with constituent service rather than with issues that affect residents beyond the boundaries of their electoral districts. This was less clear, however, for the specific policy areas.

The evidence is not consistent with the hypothesis that ward systems influence climate policy by limiting the number of environmentalists elected to Council. Although only one Brampton councillors identified as an environmentalist,[73] his lack of interest in climate policy is inconsistent with the hypothesis. Environmentalists, if elected, should be the strongest advocates for climate policy. If they are not actively involved in creating climate policy, the likelihood that they will be elected should not matter to climate policy output. This strongly undercuts the hypothesis.

Finally, the evidence lends some support to the claim that provincial influence is important to municipal decisions to adopt climate change policy. For all three policy areas the major initiatives were undertaken as a result of new provincial rules or funding. Green fleet initiatives were supported by provincial subsidies for biodiesel and hybrid vehicles, cycling infrastructure was provided as a result of funding from Metrolinx, and energy conservation measures were given weight a result of Regulation 397. The evidence above suggests that

---

[73] David Laing was hopeful that fellow BBAC member Kevin Montgomery would be elected as councillor in the 2014 election (Laing 2014, Interview), but Montgomery placed a distant tenth in a field of fifteen candidates, capturing less than 4% of the vote in Wards 3 and 4 (Brampton 2014b).

Brampton meets minimum provincial requirements and takes advantage of some non-regulatory

provincial incentives, but there is no evidence that the City challenged provincial restrictions or

went significantly beyond minimum requirements. This evidence supports Hypothesis 10a, that

variation in municipal climate change policy is a result of variation in minimum provincial

requirements for local governments, and weakens Hypothesis 10b, that variation in municipal

climate policy is the result of provincial governments that provide differing degrees of leeway to

local governments enact the climate change policy that meets their needs.

The next chapter examines the case of Winnipeg, Manitoba. This city has been somewhat

more successful than Brampton in terms of implementing municipal climate change policy,

although it still lags behind Toronto and Vancouver.

Table 4.1 Summary of Process Tracing Evidence (Brampton)

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
H1 (Explicit business influence)	Firms and industry associations lobby policymakers about climate policy issues	• No evidence of lobbying by firms or industry associations o But none expected for fleet because policy will not affect private sector	Easy hoop	Fail	Greatly weakened
	Active participation by firms and industry associations in climate policy development	• No evidence of active participation by firms or industry associations o But none expected for fleet because policy will not affect private sector	Easy hoop	Fail	Greatly weakened
	Concessions made to economic actors on climate policy	• No evidence of explicit concessions o But none expected for fleet because policy will not affect private sector	Easy hoop	Fail	Greatly weakened
	Climate policy adopted does not impose high costs on locally important economic sectors	• Brampton's cycling and fleet policy impose no costs on business or industry • Brampton has no green building policy, and thus it does not impose any costs on business or industry	Easy hoop	Pass	Strengthened
H2 (Implicit Business Influence)	Climate policy adopted not expected to impose high costs on locally important economic sectors	• Brampton's cycling and fleet policy impose no costs on business or industry • Brampton has no green building policy, and thus it does not impose any costs on business or industry	Easy hoop	Pass	Strengthened
	Policymakers demonstrate concern about effect of climate policy on local business and investment	• "To us our big concern is the cost…to the price of homes, to the price of business, and is that going to scare away potential investors in our city because we're forcing them to do something that is expensive and may not yield the benefits that you're indicating" (Councillor)	Easy hoop	Pass	Strengthened
	Outside observers perceive that policymakers prioritize economic growth	• "If you're an environmentalist on Council you've got to keep your head low. It's still a political liability to be classified as an environmentalist. Job creation and fiscal responsibility are the only things that will get you elected and keep you in office" (Cycling Advocate)	Easy hoop	Pass	Strengthened
H3 (Public attention)	Correspondence between adoption of policy and salience of climate change relative to national levels	• Salience of climate change was higher in Ontario than in the country over all; Brampton adopted little climate policy	Straw-in-the-wind	Fail	Weakened

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
	Correspondence between timing of peaks in salience of climate change and adoption of climate policy	• No evidence of correspondence between the timing of peaks in the salience of climate change and the adoption of climate policy	Straw-in-the-wind	Fail	Weakened
	Correspondence between policy adoption and policymakers' perception that the public is paying attention to the specific policy issue	• No evidence that policymakers thought voters were paying attention to fleet management or cycling infrastructure when the policies were adopted	Easy hoop	Fail	Greatly weakened
H4 (Public Opinion)	In general, policymakers seek out and care about public opinion	• "I think of myself as having 550,000 bosses….We try to make choices that benefit the greatest number" (Staff member) • Use Region of Peel's annual survey of the most important issues to residents • Top three issues for citizens are growth, gridlock and taxes: "I'd say taxes is number one" (Mayor) • "The residents are going to dictate where we're going to go. The residents are going to get what the residents want" (Staff member) • Public Information Centres used to consult with public (cycling)	Easy hoop	Pass	Strengthened
	Positive correlation between level of citizen lobbying in favour of climate policy and adoption of climate policy.	• Environmental complaints tend to be about threats to local aesthetics, e.g., litter, weeds (Sierra Club, Peel) • No advocacy for cycling infrastructure until BBAC actions beginning in 2013 • "The benefits [of a cycle track] aren't going to be realized in Brampton because we don't have that need or that push – that drive – from a cycling group. We don't have that push to go that far, nor is there a demand. We don't have the cycling trips to support that sort of thing" (Staff member) • Significant vocal opposition to bicycle lanes implemented for traffic calming purposes in Fletcher Creek neighbourhood • "How about trading in the fleet of luxury vehicles for a fleet of compact cars that will save the Brampton taxpayer when	Easy hoop	Pass	Strengthened

184

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
		you go to fill-up?" (Letter to the editor, *Brampton Guardian*) • Resident (Danko) actively campaigned for green roof policy			
	Positive correlation between policymakers perceptions of public approval of climate policy and adoption of climate policy	• No evidence that public in favour of climate policy generally, or green building policy, green fleet policy, or cycling infrastructure • No green building policy; minimal green fleet policy • Minimal cycling infrastructure; bicycle lanes removed in Fletcher's Creek	Easy hoop	Pass	Strengthened
H5 (Minimizing costs to local government)	In general, policymakers see fiscal responsibility as central to their role in government	• "If we don't have the money to do it, we can't do it" (Councillor) • Brampton is "debt free and run like a business" (Mayor) • Debate over cost savings vs. cost avoidance (Staff member) • Message to be communicated to staff is that energy conservation and management will save money (Staff member)	Easy hoop	Pass	Strengthened
	Climate policy proposals are discussed in the context of their fiscal implications	• "We can't use the greenhouse gas argument. It has to be in terms of money saved. Greenhouse gases don't sell or buy votes" (Staff member) • Cycle tracks are "the perfect example of huge infrastructure cost to create something that the benefits aren't going to be realized in Brampton" (Staff member) • Green Fleet proposal seeks to "reduce the environmental impact of operating the City's fleet through a pragmatic fiscally sustainable approach focused on meeting operational needs while introducing solutions that reduce the City's carbon footprint" (Chiaravallotti 2010) • Fleet services uses "lifecycle emissions calculation model" to "quantify the forecasted operational cost savings against the capital cost premium" (Chiaravallotti 2010)	Easy hoop	Pass	Strengthened
	Climate policy is adopted when it is expected to lead to net savings for the local government	• Green fleet policy, the most extensive climate policy, expected to have a high probability of cost savings • Cycling infrastructure is minimal, and largely adopted where funding provided from other sources • No green building policy; policymakers express skepticism	Easy hoop	Pass	Strengthened

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
		of benefits of energy management			
H6 (Independent environment departments)	Positive correlation between independence of environment department and policy adoption	• No environment department; little climate policy	Easy hoop	Pass	Strengthened
	Where high impact climate policy is adopted, environment departments have provided information and/or resources	• No high impact climate policy adopted; no environment department	Easy hoop	n/a	n/a
	Municipal environment departments are created and sustained from varied sources	• No environment department	Easy hoop	n/a	n/a
H7 (Policy champions)	There are policy champions who are strongly committed to climate change mitigation at the local level	• No climate policy champions among politicians • Three staff members in relatively junior positions who are strongly committed to climate change mitigation	Easy hoop	Pass	Strengthened
	Bureaucratic champions promote climate policy throughout its development and adoption	• Jorgenson and Hoy primary developers of *Brampton Grow Green,* the Environmental Master Plan, but do not champion climate policies considered in this dissertation • Pyne primary advocate of energy efficiency actions his efforts do not lead to formal climate policy	Hard hoop	Fail	Very greatly weakened
	Political champions promote climate policy throughout the process of adoption (i.e. in committee and Council meetings)	• No political champions	Easy hoop	n/a	n/a
H8 (Inter-urban networks)	Positive correlation between participation and climate policy adoption	• Brampton does not participate in any inter-urban climate change networks; Brampton has little climate change policy	Easy hoop	Pass	Strengthened
	Participating municipalities access selective incentives	• Brampton does not participate in inter-urban climate change networks	Easy hoop	n/a	n/a

186

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
	provided by climate change networks				
	Non-participants do not have access to selective incentives provided by networks	• Brampton is not a member of the Partners for Climate Protection but has accessed funding for climate change projects through the Federation of Canadian Municipalities' Green Municipal Fund	Easy hoop	Fail	Greatly weakened
H9a (At-large systems: more environmentalists)	Cities with at-large electoral systems will have more climate policy than cities with ward systems	• Ward-based electoral system; Little climate change policy: no green building policy, weak green fleet policy, and minimal cycling infrastructure.	Easy hoop	Pass	Strengthened
	At-large electoral systems produce more environmentalist councillors than ward systems	• Brampton had one environmentalist councillor (John Hutton)	Easy hoop	Pass	Strengthened
	Environmentalist councillors in both systems are active participants in climate policy adoption	• John Hutton was primarily concerned about conservation and protection of local watersheds and did not promote climate policy or actively participate in its development or adoption (including all three specific policy areas considered here)	Easy hoop	Fail	Greatly weakened
H9b (At-large electoral systems: ethos theory)	Cities with at-large systems will have more climate policy than cities with ward-based systems	• Ward-based electoral system; little climate change policy: no green building policy, weak green fleet policy, and minimal cycling infrastructure.	Easy hoop	Pass	Strengthened
	In at-large systems councillors prioritize issues that do not have geographically concentrated effects, whereas in ward systems councillors focus on issues that affect their own wards	• Councillors prioritized issues that affect their geographically-defined wards • Climate policy rarely discussed in Council	Easy hoop	Pass	Strengthened
	Climate change mitigation seen as within municipal jurisdiction in at-large systems, but not in ward	• "Official Plan is silent on [climate change because it] is beyond the jurisdiction of municipalities" (Staff member) • Planning department staff "not sure what you can do beyond motherhood – broad statements [of support for action on	Easy hoop	Pass	Strengthened

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
	systems	climate change]" (Staff member) • Green building seen as outside jurisdiction; fleet and cycling infrastructure seen as within jurisdiction			
H10a (Provincial influence: minimum requirements)	Local climate policy meets minimum provincial requirements, but does not exceed them	• Energy efficiency reporting begun as a result of Ontario Regulation 397 • Brampton did not exceed minimum standards in any climate policy area	Easy hoop	Pass	Strengthened
	Municipalities do not adopt climate policy in areas not regulated by the provincial government	• No minimum provincial standards for green fleet or cycling infrastructure; • Some green fleet policy and some cycling infrastructure adopted	Easy hoop	Fail	Greatly weakened
H10b (Provincial influence: restrictive limits)	Municipalities take advantage of subsidies and other non-regulatory incentives to climate policy	• Installation of bike racks on buses due to funding from Metrolinx BikeLinx Program. • Green fleet policy enabled by provincial subsidies for biodiesel and hybrid vehicles	Easy hoop	Pass	Strengthened

	Cities are unsuccessful in challenging provincial restrictions on climate policy	• City did not challenge provincial government restrictions:
		  o "We can only enforce the building code" (Staff member)
		• Brampton policymakers (successfully) sought to lower non-binding provincial standards for cycling infrastructure:
		  o Opposed designation of cycle tracks and on-road lanes best practices for cycling infrastructure
			Easy hoop	Fail	Greatly weakened

[a] See Chapter 3, and Table 3.1 in particular, for a full overview of the types of process tests, their difficulty, potential outcomes, and the implications of those outcomes on the hypothesis.

Chapter 5: Winnipeg, Manitoba

5.1   A Profile of the City of Winnipeg

Winnipeg is Manitoba's capital and largest city. Incorporated in 1873, the city served as the "gateway" of the prairies: a transportation hub through which rail lines from the United States and across Canada passed. In 2011 its 690,000 residents comprised about 55% of the provincial population (Statistics Canada 2011c). Winnipeg has experienced relatively strong population growth in recent years, a new trend following modest growth in the 1980s, and very slow growth in the 1990s (Winnipeg 2011, 10). Because of its diversified economy, Winnipeg experienced less of a decline than the national average during the 2008-2009 recession and since then the city's economic growth has been close to the average of similarly sized Canadian municipalities (Winnipeg 2011, 14).

Beginning in 1960, Winnipeg was part of a two-tier municipality. Ten regional councillors represented twelve member municipalities and were directly elected from constituencies that were required to cross municipal boundaries (Sancton 2011, 117). Although the purpose of this was to increase cooperation and consensus, there was significant conflict between the Metro council and constituent municipalities, especially with longstanding mayor of Winnipeg, Stephen Juba (Sancton 2011, 117). The City of Winnipeg's current single-tier structure (originally known as "the Unicity") is the result of the popular amalgamation of the constituent municipalities of the Metropolitan Corporation of Greater Winnipeg in 1971. Initially, city councillors represented 50 wards, but this was unwieldy and was gradually reduced to the current fifteen (Sancton 2011, 117).

Although candidates were organized into local political parties in the mid-twentieth century, parties have not structured the electoral system in Winnipeg since the late 1970s

(Sancton 2011). This is not to say that there is no partisanship or ideological alignment in

Council. Over the years mayors have had different ideological positions and have created formal

and informal coalitions and alliances with like-minded councillors. However, there is some

debate about the value of formal association with national and provincial political parties. One

current city councillor is a member of the New Democratic Party (NDP), and following his

experience running for Toronto City Council under the NDP banner in 1991, he has chosen not

to formally associate with the party as a politician. He says the NDP's attempt to break into

Winnipeg municipal politics "was a dismal failure" (City Councillor 2013, Interview). For

example, in 2010 mayoral candidate Judy Wasylycia-Leis had been a federal member of

parliament for the NDP, and continued to be associated with that party during the municipal

election campaign. Political observers have suggested that this association may have led to

business and more right-wing citizens to coalesce around the successful campaign of incumbent

mayor Sam Katz, despite his mixed record on economic and business issues (Kelcey 2013,

Interview).

The mayor of Winnipeg wields significant power compared to counterparts in other

Canadian cities due to their control of the Executive Policy Committee (EPC). Created in 1997,

the EPC is composed of councillors selected by the mayor, and some describe it as similar to a

parliamentary cabinet (Hall 2013, Interview). The mayor's control over EPC decisions derives

from the ability to appoint members, as well as the incentives provided by the increase in salary

and influence associated with becoming the deputy mayor or chair of one of the five standing

committees (Gerbasi 2013, Interview). While the EPC has no executive power, all policy

proposals must pass through it before being debated by the full Council. The EPC also controls

the municipal budget process. Councillors who are not part of the mayor's coalition suggest that

this arrangement limits the transparency of the budget process and participation by the full council (Gerbasi 2013, Interview).

There are two mayors who figure prominently in this analysis: Glen Murray, who is commonly considered to be a progressively oriented politician and who held office from 1998-2004; and Sam Katz, thought of as a more business-friendly mayor who held office from 2004-2014. Following a number of scandals, Katz did not run for re-election in 2014 and was replaced by Brian Bowman.

Winnipeg has been governed by different provincial legislation than other Manitoba municipalities since the formation of the Unicity in 1971 (Sancton 2011). However, the *City of Winnipeg Charter*, which entered into effect on January 1, 2003, was "intended to form the basis of a new relationship between the province and the city, and endow the City with a broader set of jurisdictional powers and an increased level of autonomy" (Gordon 2008, 80). Based on precedents from Alberta and British Columbia, the Charter moves away from the Dillon's rule model of precisely listing all municipal responsibilities, towards a more permissive approach in which the Province grants the City broad areas of authority. The Charter also gives the City of Winnipeg greater power over planning and land-use decisions (Winnipeg 2014).

In terms of the structure of the bureaucracy, in 1997 Council passed the City Organization by-law which provided for seventeen administrative departments. Since then some departments have been eliminated and others consolidated: the City of Winnipeg administration now consists of eleven departments.[74] A 2008 amendment eliminates the formal enumeration of

---

[74] For example, the Fire Department and the Ambulance Department have been consolidated into a single Fire Paramedic Service and the sale of Winnipeg Hydro in 2008 led to the elimination of the Hydro Department.

City departments and gives the CAO authority to determine the administrative structure of the bureaucracy. All departments report to Council indirectly – their reports and proposals must first pass through one of five Standing Committees as well as the Executive Policy Committee before being finally approved by the full Council.

5.2 Political Economy Factors and Dedicated Departments

As detailed in Chapter 2, I theorize that the presence of an independent administrative group dedicated to sustainability and environmental protection permits some cities to overcome political economy barriers to climate change mitigation policy. In order to test this theory I compare the empirical predictions of the hypotheses to evidence from climate policy decision-making in Winnipeg. In the sections below I demonstrate that the City of Winnipeg faces strong political economy-based disincentives to climate change mitigation policy and has minimal institutionalized capacity for environmental policymaking.

5.2.1 Political Economy Factors

One hypothesized political economy effect on municipal climate policy is the indirect influence of business interests. If this indirect influence is producing the lack of climate change mitigation policy at the City of Winnipeg I expect to observe that politicians promote economic growth, and take actions and make statements indicating that their priorities and the priorities of their constituents are the economy, jobs and economic growth. I also expect to observe that outsiders (media, interest group observers, staff and others) will perceive that politicians' main focus is on the economy.

One instance of this can be seen in the participation of each city councillor on the board of the Business Improvement Zone (BIZ) association in their ward. These organizations provide services to the businesses in their local area, sponsor activities, and are concerned about safety

and economic revitalization (Gerbasi 2013, Interview). That all councillors do this – even those who self-identify as progressive or left-wing – suggests that economic growth is at the core of perceptions of municipal politics.[75]

There is disagreement, however, about whether economic growth is compatible with prioritizing environmental concerns. Councillor Jenny Gerbasi, who was a prominent member of the Executive Policy Committee under Mayor Glen Murray but found herself outside of the inner circle under Mayor Sam Katz, argues that there are progressive ways to promote economic development that include, for example, public transit. However, Mayor Sam Katz seems to have seen these as entirely separate issues. In a press release announcing the appointment of the new EPC in November 2013, Katz identified a list of issues as "the priorities" of citizens – a list that included economic growth, but excluded environmental and climate change issues:

> "This new team is focused on the priorities of Winnipeggers – fixing our streets and providing quality recreation and community facilities for families to enjoy," said Mayor Katz. "In addition, EPC has a renewed focus on economic development." (Winnipeg 2013b)

Outside observers of Council, both environmentalists and pro-business lobbyists, see the economy as central to the City of Winnipeg's policy considerations. For example, Chuck Davidson, former Vice President of Policy at the Winnipeg Chamber of Commerce, says that in part because Winnipeg makes up over 60% of the population of Manitoba, both municipal and

---

[75] Winnipeg's sixteen Business Improvement Zones are groups established by the City of Winnipeg to promote economic growth across the city. All businesses in the area are members of the BIZ. They are run by management boards made up of business representatives and a City Hall representative. In practice, this representative is the City Councillor for the area.

provincial governments see the city as the province's economic engine and take steps to promote growth (Davidson 2013, Interview).

Similarly, former Winnipeg city planner Martin Sandhurst perceives that the economy is the main driver of City policy, but he sees it coming at the expense of environmental considerations. He notes that the City does not use the concept of a "triple bottom line", which is a way of thinking about costs and benefits that includes both environmental and social issues in addition to the traditional financial accounting. While Sandhurst says he personally applies this logic, this approach is not common among staff or politicians at the City (Sandhurst 2013, Interview). Sandhurst further notes that the majority of Council time is spent on land and development negotiation – on issues such as zoning variances and development permits. Although these issues have important implications for the environment and climate change mitigation efforts, Sandhurst argues that the discussions and negotiations focus primarily on the economic impacts of development including the tax base and job creation (Sandhurst 2013, Interview).

Former mayoral staffer Brian Kelcey has a slightly different, but compatible, perspective. Kelcey is adamant that Mayor Sam Katz did not have any particular policy agenda in office and let others determine the course of action, but he argues that the result of Katz's tenure as mayor has been the continued promotion of a framework that eases the burdens on developers and encourages growth in the real estate industry (Kelcey 2013, Interview).

The direct influence of economic actors, including firms and industry groups is another hypothesized factor that may shape municipal policymakers' choices about climate change policy. If the explicit intervention of economic actors reduces the likelihood of climate change policy at the City of Winnipeg, I expect to observe active and direct lobbying of politicians and

194

staff by representatives of firms and business associations. I also expect that representatives of

firms and business associations will be active participants in the policy development phase of

initiatives that are likely to impact the profitability of the local business community. Last, I

expect to observe that the City makes concessions to economic actors – either in the decision to

adopt a policy or in the specific requirements within policies.

Consistent with this hypothesis and the urban political economy literature discussed in

Chapter 1, there is significant evidence that the business community is involved in the direct

lobbying of Winnipeg municipal politicians. Former planner Martin Sandhurst argues that there

are a number of development industry organizations that are actively involved in lobbying,

including building owners and managers, homebuilders, heavy construction and the Chamber of

Commerce. He argues that these groups have built up expertise in the current system and that

they fight against requirements for community amenities and other policies that are potentially

beneficial from environmental and social perspectives, though their opposition to these rarely

becomes public. Moreover, he suggests, these groups are much more powerful, in terms of the

influence of their lobbying, than their environmentalist counterparts at organizations like the

Manitoba Eco Network and the International Institute for Sustainable Development (IISD)

(Sandhurst 2013, Interview).

The basic elements of this claim, although not the critical perspective, are echoed by

Chuck Davidson, former Vice President of Policy at the Winnipeg Chamber of Commerce.

Davidson says that the Chamber of Commerce engages in direct lobbying, as do other

organizations such as unions and sector-specific industry associations. He describes the Chamber

of Commerce's lobbying activities as having two main components. First, the Chamber

advocates for specific action on behalf of individual members. For example, a local hotel was

having problems with trucks being parked adjacent to the property and the Chamber contacted

the City asking them to get the trucks to move to a different location. Second, the Winnipeg

Chamber of Commerce lobbies in support of broader policy objectives. Davidson argues that the

main target of their lobbying efforts is the Executive Policy Committee, which he describes as

the "decision-making entity at City Hall" (Davidson 2013, Interview). The Chamber makes

presentations to the EPC about the budget as well as other specific issues.

Davidson argues that councillors are receptive to their ideas because the Chamber of

Commerce, as an organization, has credibility. The Chamber does not simply promote a policy

or oppose it; rather, the organization provides researched reasoning that realistically considers

the constraints under which the City operates.

> It's not us just saying: "You need to lower taxes. We're not going to tell you how to do it,
>
> but just do it!" There's an issue in Winnipeg with the business tax, we're one of the few
>
> communities that has a business tax. The easy approach is to say "Why do we have a
>
> business tax? You guys should just eliminate it!" Our approach is to say "Here's a way
>
> we think you can do it that's manageable. Let's do it over a five year timeframe. Let's do
>
> it through a threshold process." We know the impact this will have on revenue, so it's not
>
> as simple as just doing it overnight. There needs to be a process to do it. (Davidson 2013,
>
> Interview)

Moreover, the Chamber of Commerce sees its role as reminding the City that they need to

implement the policies that they develop. Davidson argues that they pay attention to the

documents and reports that are developed and seek to ensure that the City follows through.

"We'll go back and say 'Remember that tax work we did five years ago, that you were going to

look… for efficiencies in government so you could eliminate the business tax in Winnipeg? How come we haven't done any of them?'" (Davidson 2013, Interview)

City Councillor Jenny Gerbasi also confirms that the Chamber of Commerce lobbies the municipal government. She argues that "they take on the neo-conservative ideology that we should just cut all the taxes and then everything will just trickle down" (Gerbasi 2013, Interview). According to Gerbasi, the Chamber of Commerce sees tax cuts and the elimination of "red tape" as the policies that are best for promoting the interests of business. In contrast, she argues, local BIZ (Business Improvement Zone) associations also work on behalf of business and seek economic growth, and also advocate for their positions at City Hall. Their main goal is local economic revitalization, and they push for a range of progressive policies at City Hall, including public transit (Gerbasi 2013, Interview).

Staff and business community representatives also confirm that economic actors – in particular the Chamber of Commerce – are active participants in the policy development process. For example, Martin Sandhurst says that the City sets up citizen panels to discuss zoning decisions, but all members are representatives of organized groups, including the Chamber of Commerce, the sign industry, and others (Sandhurst 2013, Interview). Chuck Davison of the Chamber of Commerce confirms that his organization is heavily involved in City of Winnipeg policy planning processes, including for the *Our Winnipeg* official plan.

> As the Chamber of Commerce representing the business community, we get asked to sit on a lot of these different taskforces and commissions and by-law reviews, representing the business community. We spend a lot of time and effort gathering information from the business community, making sure that their voice is heard on specific issues in the creation of various documents. (Davidson 2013, Interview)

197

There is also some evidence that the City is receptive to the demands of economic actors and either makes concessions or follows their advice. Chuck Davidson gives two examples of situations in which the City made decisions consistent with the position of the Chamber of Commerce. In the first, the debate over the privatization of waste collection services, the Chamber pushed for privatization, whereas the public service union opposed the change. This supports the claim that the City makes concessions to business, but is not conclusive as this evidence would equally support an explanation that the Chamber simply promoted a position that Council was tending towards in any event.

However, the second example is more probative: the elimination of the business tax. This policy is at the top of the Chamber of Commerce's policy agenda. As noted above, the Chamber of Commerce developed a specific strategy that outlines an approach involving a phased reduction and threshold process to minimize disruption to City revenues. Chuck Davidson argues that the City accepted the Chamber's recommendation to eliminate the business tax and "started implementing the policy framework in the way that [they]'d identified" (Davidson 2013, Interview). Since there are many potential ways in which a government could proceed in reducing or eliminating a tax, the fact that they adopted an approach that is the same as the one proposed by the Chamber of Commerce is highly supportive of the claim that policymakers follow the advice of and make concessions to economic actors.

One implication of this finding is that it matters what economic actors are pushing for. Davison notes that while the environment and sustainability are important to the Chamber of Commerce – especially in the form of livable cities – they are not the main priority. The Chamber's success in influencing the government in the direction of eliminating the business tax might suggest that they could equally make strides in the development of climate change

mitigation policy should they choose to advocate on such issues. Moreover, Councillor Jenny Gerbasi suggested that given different leadership at City Hall, economic groups such as the BIZ associations and the Chamber of Commerce could come together with Council and the bureaucracy to create progressive policy to promote the local economy and other social and environmental goals, something they did not do under Mayor Katz.

Some claim that Manitobans, and Winnipeggers in particular, see themselves as environmental stewards (e.g., Welch and Wiebe 2009). This is borne out, to a degree by the Google Trends data, which shows that climate change is indeed more salient in Winnipeg than among Canadians in general (see Figure 5.1 below). Moreover, this data shows that trends in public attention to climate change are not related to the political ideology of the mayor: Google Trends data is only available beginning in 2004, just before the election of Mayor Sam Katz who held office until November 2014. Given this higher level of attention in Winnipeg than in Canada more generally, we should expect that this would lead Winnipeg politicians to be *more* likely to create climate change policy than their counterparts at other levels of government and in other Canadian cities. However, in practice this is not the case. Winnipeg ranks near the bottom of large Canadian cities in terms of the number of climate policies enacted (see Table 1.2).

Google Trends data show that while Manitobans – mainly Winnipeggers – tend to pay more attention to climate change than the national average, the patterns are similar to those seen nationally. This suggests that attention to climate change in Winnipeg is driven by the same

national or international events that affect attention to climate change across Canada, rather than

by local events or policy decisions by municipal or provincial governments.[76]

Figure 5.1 Public Attention to Climate Change in Manitoba and Canada
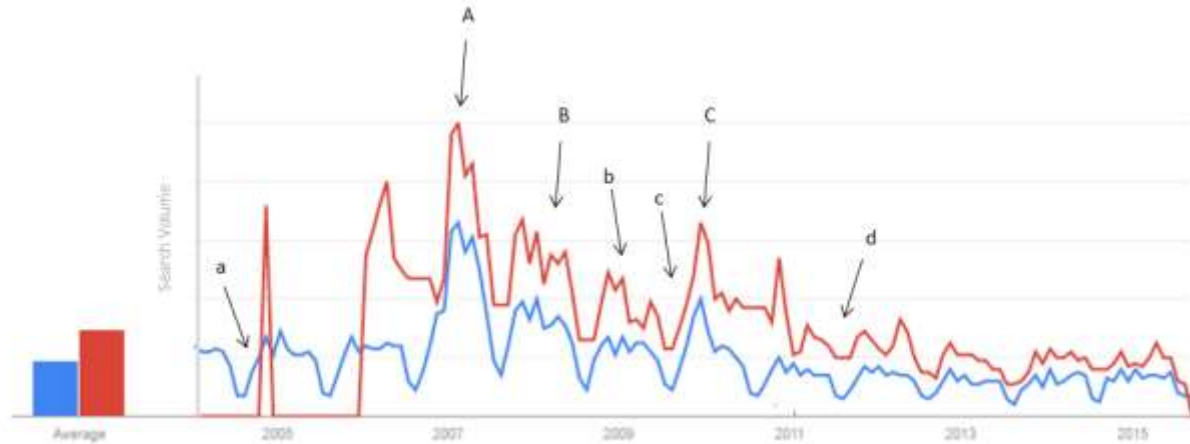
Blue: Canada; **Red:** Manitoba
Search terms: "climate change" + "global warming"
Municipal Events: a= Election of Mayor Sam Katz; b = Launch of *OurWinnipeg* planning process; c = Adoption of municipal climate change action plan; d = Adoption of the *OurWinnipeg* official plan
Provincial, Federal and International Events: A = Announcement of federal *Turning the Corner* Plan; B = Provincial climate change legislation; C = COP 15
Data source: Google Trends. Google Trends provides normalized and scaled data. The results of each search are plotted "on a scale from 0 to 100 by dividing the total search volume at each point in time by the highest value within that same time frame" (Ripberger 2011). Google Trends data is not available at the municipal level in Canada. However, the program compares regional search volume within the province. In Manitoba, Winnipeg has the highest relative search volume at 100, and Brandon is second with significantly lower search volume at 60. The "numbers represent search volume relative to the highest point on the map which is always 100" (Google Trends). This strengthens the validity of measuring issue salience of climate change in Winnipeg using Manitoba data.

The Province of Manitoba released its climate change legislation about one year after the

highest peak in national and provincial attention to climate change, which corresponds to the

announcement of the federal government's *Turning the Corner* climate action plan. At that time,

attention was at about 60% of peak search volume. The Winnipeg municipal climate change

---

[76] The "zero" level of attention in the 2004-2006 period shows not that there were no searches, but that the level was very low relative to the highest peak in searches in early 2007. This makes the peak in late 2004 particularly interesting. This peak corresponds with the election of Mayor Sam Katz, who took office after the resignation of Glen Murray. The relevance of this event to climate change is not immediately obvious.

action plan was adopted nearly two years later, as attention to climate change was falling and before the rise in attention corresponding to the COP 15 Kyoto Protocol negotiations in Copenhagen. If policy decisions are made *in response* to public opinion, we would expect that there will be a time lag between the peak in public attention and the adoption of the policy. However, even at the speed of local government administration, two years is a long time.

Evidence that the City took action in response to these changes would be particularly probative given that the same mayor, Sam Katz, was in power for ten of the eleven years for which there is data on public attention to climate change (2004-2015). However, there is little evidence to suggest that the City enacted climate change policy at peak periods of public attention: 2007, 2008, 2010. Accordingly, there may an alternative explanation of the pattern of climate policy adoption in Winnipeg. Such explanations might be that other issues are more salient and thus counteract the potential electoral advantages of creating climate change policy, that other political economy factors are more powerful motivators of policy than issue salience, or that something other than the political economy context is driving policy adoption.

In general, this evidence suggests that patterns of public attention climate change in Winnipeg are not sensitive to policy decisions at the local level, and that policymakers are not responding – at the general level – to trends in public attention to climate change.

5.2.2   Independent Environment Departments

None of the original seventeen, nor the current eleven, administrative departments at the City of Winnipeg are dedicated to the environment or sustainability. Environmental responsibilities are assigned to line departments that most closely align with particular issues, such as Water and Waste, Parks and Recreation, Streets and Transportation, or Public Works. Of all City of Winnipeg employees, only three positions are exclusively dedicated to environmental

issues. Despite some capacity with the municipal bureaucracy, these positions are embedded within other departments and do not constitute independent units.

The Environmental Coordinator (EC) position was created by former Mayor Glen Murray in 2001 as a political appointee (Gordon 2008). The EC position was initially based in the EPC Secretariat. This arrangment had both positive and negative elements: as a political appointee, the EC had the ear of the mayor, but was minimally integrated with the bureaucracy. As one of David Gordon's interviewees reported:

> When our first Environmental Coordinator was on the political side – he was a political appointee by the Mayor and so he had a lot of clout on the political side – things were moving. The challenge of the Environmental Coordinator being on the political side was that, well, administration's not really doing it, they're not really following through, there's not that connect. The political side was saying 'it shall be thus' but it wasn't really translating across. (Gordon 2008, 88)

Moreover, during Murray's tenure the EC had significant freedom, but this – and the existence of the position itself – was dependent on the whim of the mayor of the day. Electoral outcomes had a big impact on the EC's influence. Over the years the EC position was transformed into a more traditional bureaucratic role, first as part of the CAO Secretariat in 2004 (Gordon 2008, 89), and then as part of the Property, Planning and Development department in 2008 (Hall 2103, Interview). Gordon argues that this shift "reflect[s] the decreased political clout of the position, [but] allowed it to be insulated from the prevailing political winds, and helped create the space for policy initiatives to gain traction" (Gordon 2008, 89).

More recently, the EC has been involved in revising and modernizing the greenhouse gas emissions inventory originally created in 1998. The City's green building policy was another

major project. Other issues, including the landfill gas capture plan, are also within the mandate of the EC, but these have not been the priority (Hall 2013, Interview). A new position, Community Climate Change Coordinator, was created in 2011 as a temporary, project-based position to assist the Environmental Coordinator. Consistent with the outcome of the Council debate relating to Councillor Jenny Gerbasi's motion in September 2009, the "community" part of the title – suggesting that the position is meant to address emissions created outside City operations – has been largely rhetorical as it became clear early on that managing the corporate emissions inventory and reduction plan would be a full time job (Hall 2013, Interview). The job largely involved supporting the Environmental Coordinator's revisions of the corporate inventory and plans (Hall 2013, Interview; Madden 2013, Interview).[77]

Only one other climate change-related position exists in the City bureaucracy: the Active Tranportation (AT) Coordinator. This position was created in 2007 and is housed in the Public Works department. The Active Transportation Coordinator is responsible for all non-motor vehicle transportation policy in the city – namely walking and cycling (Nixon 2013, Interview). Some of the main policy initiatives undertaken in this area include the promotion of active transportation by running community events, publishing active transportation maps, and creating bicycle lanes and cycle tracks.

While there are no dedicated sustainability or environment departments or legislative committees within the City of Winnipeg governance structure, there are two citizens' advisory committees concerned with climate change issues: the Mayor's Environmental Advisory

---

[77] The contract of the Community Climate Change Coordinator was not renewed in September 2015 and it is not expected that the position will be filled (Kives 2015).

Committee (MEAC) and the Active Transportation Advisory Committee (ATAC). Citizens'

advisory committees have no legislative power and their members are appointed by Council to

advise the government on particular topics (Sancton 2011, 188). In the case of MEAC, the

committee is co-chaired by a Councillor and a citizen member. In contrast, ATAC has no

political representation: its members are citizens and staff members.

Originially established to replace the Civic Environment Committee set up by former

mayor Glen Murray, MEAC has a broad mandate in terms of addressing a wide range of

environmental issues, but it seems to be minimally effective. Under Katz, the committee's

recommendations went directly to the Mayor's office, rather than to the Executive Policy

Committee as was the case when Murray was mayor. The mayor is not required to respond to

MEAC reports, or make them public (Hall 2013, Interview). As the co-chair of the committee

says: MEAC "reports into the mayor's office and if the mayor chooses to act it he does, and if he

doesn't, well…" (City Councillor 2013, Interview). Environmental initatives proposed by

MEAC are rarely presented to Council or translated into concrete action.[78] In his fourteen

months as a City Councillor he had "never voted on something, or even seen something come

forward that says it's from the Mayor's Environmental Advisory Committee" (City Councillor

2013, Interview). This is consistent with Brian Kelcey's observation that "policies are frequently

anounced [and just] sit there, literally for years without anybody actually implement[ing

them]….There's an endless queue [of open files]" (Kelcey 2013, Interview).

---

[78] Exceptions include the Yellow Fish Road program (Hall 2013, Interview) and the recommendation to include the
Fire Paramedic Service and the Police Service in the Winnipeg Green Fleet Plan (Winnipeg 2010). Under the
Yellow Fish Road program, the City of Winnipeg's Public Works Department issues permits to citizen groups that
wish to paint fish symbols on storm drain covers to remind residents not to dump toxic material into storm drains
that empty directly into waterways. This program is privately sponsored.

The members of MEAC have long been frustrated with institutional weakness of the committee: its lack of transparency, resources, and authority. Councillor Jenny Gerbasi was chair of the committee when it was first established. She and other members pushed Mayor Katz to change the structure of the committee to improve its effectiveness, but were rebuffed. Gerbasi and many other members resigned at that point (Gerbasi 2013, Interview). MEAC members continue to struggle with these issues. MEAC co-chair noted that they

> seem to want a better report-back from the mayor's office. [They say:] "Okay, we recommended X and we never heard back from you. Did you reject it? Is it sitting on someone's desk?" They want better feedback, and the Mayor's office has committed to doing something about that. (City Councillor 2013, Interview)

The Active Transportation Advisory Committee (ATAC) is also made up of citizen members and serves an advisory role. However, it is distant from the political process, reporting directly to the Director of Public Works. Kevin Nixon, AT Coordinator and chair of the committee, argues that there are both negative and positive consequences of this structure, but that it is advantageous on the whole. "It allows us to treat the city overall much more fairly," he says. Councillors tend to be primarily concerned with their own wards, and so the lack of direct political participation on the committee "allows us to plan city-wide a lot more effectively" (Nixon 2013, Interview).

The Active Transportation Advisory Committee was established in 2007 at the same time as the AT Coordinator position, and was intended to support that position (Gerbasi 2013, Interview). The ATAC is chaired by the AT Coordinator and until 2012 its members were representatives of community groups that were active on this issue. Members report that the committee was relatively effective and that the City's active transportation programming and

205

infrastructure benefited from the expertise of the members (Nixon 2013, Interview; Swansson 2013, Interview; McKechnie 2013, Interview).

Despite these favourable outcomes, the committee has not been without controversy. It was disbanded in 2012 following controversy over the confidentiality of the material presented to the committee (McKechnie 2013, Interview; Gerbasi 2013, Interview). A new version of the ATAC was established in early 2013, but its members were selected as individuals rather than as representatives of organizations and they were required to sign confidentiality agreements (McKechnie 2013, Interview). The fact that the structure and composition of this committee were so easily changed by Council indicates that while it was a useful tool in support of active transportation and climate change policy goals, it has limited independence.

While these committees provide avenues for citizen participation in municipal decision-making and are sources of ideas and recommendations for politicians and staff, they do not have the authority to make concrete policy decisions and have are not independent. Neither the three dedicated positions, nor these advisory committees are equivalent, for the purposes of the theory presented in this dissertation, to independent environmental or sustainability departments embedded within the structure of the adminstration.

5.2.3   Policymakers' Commitment to Climate Change Action

Brian Kelcey argues that "except in cases where there is an explicit, politically savvy champion pushing the issue, climate change specifically, and sustainability more generally, tends to be something that is done as a footnote – even by people who care about the issue" (Kelcey 2013, Interview). This is consistent with the alternative hypothesis that policy champions are central to the creation of local climate policy. However, these individuals have had limited success – which is inconsistent with that hypothesis.

Former mayor Glen Murray, who held office from 1998 to 2004, is an example of a political champion who pushed for more ambitious climate change policy at the City of Winnipeg. An advocate of environmental protection, Murray was appointed Chair of the National Round Table on the Environment and the Economy (NRTEE) in 2005 following his resignation as Mayor of Winnipeg. While Chair of the NRTEE, he advocated for carbon pricing and oversaw the publication of a report suggesting that very large GHG emission reductions were possible in Canada without significant economic hardship (CBC 2006).

David Gordon (2008) reports that, as Mayor of Winnipeg, Murray was personally committed to climate change action; however, he had little support from Council or the public service. One of Gordon's interview respondents told him:

"…the Mayor got out there and put [climate change] in people's faces, he was out there talking to people about the responsibility of individual citizens and the responsibility of municipal governments….there was leadership at the top of the pyramid, but very little below. It was like pushing a piece of string up a hill." (Gordon 2008, 87)

Immediately following Murray's election as mayor in late October 1998, the City of Winnipeg undertook its first climate action: passing a resolution on November 25, 1998 to join the Federation of Canadian Municipalities' (FCM) Partners for Climate Protection (PCP) network (Gordon 2008). By joining the PCP, the City committed to "reduce greenhouse gas emissions from municipal operations 20% below 1990 levels within ten years of joining the program, and to reduce community wide greenhouse gas emissions at least six percent below 1990 levels within ten years of joining the program" (FCM n.d.). The City subsequently

produced corporate and community emissions inventories for 1994 and 1998.[79] As discussed

below, Murray was also responsible for creating the role of Environmental Coordinator as a

political appointee in 2001 (Gordon 2008).

Given the supposed power of the mayor in Winnipeg's governance system, it is

surprising that Murray had so little success. However his failure to create major change is also

consistent with the primary theory I propose in this dissertation: that the presence of an

independent environment department is the key explanatory factor.

Another politician with a strong commitment to municipal action to combat climate

change is Councillor Jenny Gerbasi. While she had prominence while Murray was mayor, her

influence waned under Mayor Sam Katz. As an outspoken left-leaning Councillor, Gerbasi was

never appointed by Katz to the Executive Policy Committee (EPC) or given roles that would

give her the authority to change policy outcomes. Gerbasi's commitment to municipal climate

change action can be seen in her objections to the marginalization of community emisssions in

plans to renew corporate greenhouse gas emission reduction targets in 2009.

On September 30, 2009 Gerbasi moved to amend an EPC recommendation to approve a

new climate change action plan. Gerbasi applauded the achievement of the previous target for

corporate emission reductions as well as the decision to renew them, but noted that under its

commitment in the Partners for Climate Protection (PCP) program, the City's had also

committed to reduce *community* emisisons. She noted that "only 2% of all emissions in the City

---

[79] As in this dissertation, the PCP and other similar programs divide emissions into two categories: corporate and community emissions. By convention, emissions from city-owned landfills are counted as community emissions. The City of Winnipeg has been successful in meeting its corporate emissions reduction goals, although this has been largely a feat of accounting: the 2002 sale of the local utility, Winnipeg Hydro, removed those emissions from the "corporate" emissions inventory and translated into an immediate 18% reduction below 1990 levels (Kives 2009).

of Winnipeg of greenhouse gas emissions actually…[came] from corporate emissions alone" (Winnipeg City Council 2009, 8), emphasising one of the issues at the heart of this dissertation: scope of emissions covered by municipal policy. She argued:

> this amendment is not about the corporate emissions alone, it's about not the 2% but the 100%: looking at all of that. And it's saying that we need to set a clearer target. We're already 11 years into this process and we haven't started really getting a plan in place. (Winnipeg City Council 2009, 8)

In her statement, Gerbasi said that while the proposed climate change action plan included the PCP target for community emissions reductions of 6% below 1990 levels, it did not include a target date by which to achieve them. Without a deadline, she argued, it would not send a message to staff that this was a high prority for Council (Winnipeg City Council 2009, 8). Gerbasi explicitly argued that the City of Winnipeg – and cities in general – have a responsibility to act on climate change mitigation. She said: "As a City Council…we often talk about ourselves as a level of government. This is a policy for the City" (Winnipeg City Council 2009, 14).

Despite the support of some of her colleagues, Gerbasi's amendment ultimately failed in a vote of six in favour and ten opposed. Those in favour argued along the lines of Councillor Harvey Smith who said:

> This amendment is reasonable. I don't understand why some people are opposed to it. I mean, if you have a plan you should have a deadline. You should be able to measure what your successes are. You know, without a deadline, without any dates to achieve something it's not really a plan. (Winnipeg City Council 2009, 12)

However, those opposed argued that both the baseline of 1990 emissions and the deadline of 2012 were too ambitious. Councillor Gord Steeves argued that if these goals are not met, "all

these things [deadlines] do, in my respectful opinion, is serve to demoralize the movement"
(Winnipeg City Council 2009, 11). Likewise, Mayor Katz, although he seems to have implicitly
agreed with Councillor Smith that setting deadlines allows for measuring success, clearly
preferred not to have evidence of failure. Katz argued that Gerbasi had it backwards. Instead of
setting a deadline and figuring out how to meet it, the City should figure out how to proceed and
then set a deadline.

> We all know what's happened in the past. Lovely announcements, media gatherings, here
> is what our target is, we're wonderful, we are terrific. We all know where that resulted. I
> think what we should do is do our homework, and hopefully maybe that 6% is something
> realistic and set the time frame, whatever it would be, but I think we should do our due
> diligence first. I have no problem with the 6% and maybe we can find out that's not as an
> ambitious goal. Maybe it should be 8%. No problem with that but let's do our due
> diligence first and I have no problem letting Councillor Gerbasi know that's something
> that I would be happy to move on as quick as possible. But let's not just throw out a date
> not knowing what's realistic and then look foolish. Let's do our homework right away,
> come up with a date and move forward. (Winnipeg City Council 2009, 15)

While this seems to be a reasonable response on the surface, the fact that by the end of
Katz's mayoralty in 2014 the City of Winnipeg still had neither a firm target for community
reductions nor a plan reflecting what could be done, suggests that this was a face-saving reply.
Moreover, this type of thinking and argumentation – not outright condemnation of climate
change mitigation goals, but ambiguous language leading to obfuscution and stagnation – are
typical of the rhetoric of Mayor Sam Katz. Brian Kelcey, former Katz staffer, suggests that while
the mayor was certainly not an environmentalist, he was not necessarily opposed to the idea

either. Rather, Kelcey argues, "Sam [Katz] is the most disinterested person I've met in politics." He was neither interested in the files at hand, nor in being seen to be implementing a specific agenda (Kelcey 2013, Interview).

Katz's actions at the outset of his mayoralty, however, stand in stark contrast to those of his predecessor, Glen Murray. Katz was elected in 2004 following a campaign in which he promised to cancel the Bus Rapid Transit project that had been initiated by Murray and supported by all three levels of government. In contrast to Murray's advocacy for Winnipeg's involvement in the PCP network, one of Katz's first actions as mayor was to follow through on his promise to cancel the rapid transit plans.

This view of Katz is supported by comments by Chuck Davidson, then-Vice President of Policy at the Winnipeg Chamber of Commerce. Davidson notes that the business community has had high hopes for Katz, but, they have not been entirely satisfied with his performance.

> The previous mayor [Glen Murray] was a lot more visionary in terms of throwing out
> different ideas, in terms of identifying issues and trying to look for solutions. This mayor
> was thought of as being a very much pro-business mayor…. I think the business
> community had greater expectations on things that were important to the business
> community: things like the elimination of the business tax. He [Katz] has taken steps on
> those things, so he has proved to be a little bit more business-friendly [than Murray] but I
> think the business community would say that he hasn't gone as far as they would have
> hoped. (Davidson 2013, Interview)

Despite Katz's lack of enthusiasm for climate change policy in general and rapid transit in particular, the City publicly committed to sustainability in its official city plan, *OurWinnipeg*, released in 2011. This plan explicitly references sustainability and climate change, and in its

many sections and accompanying documents it describes a new sustainable Winnipeg that incorporates, among other initiatives, progressive and sustainable transit, active transportation, zoning and land-use planning, and waste management. City planners who worked on this plan describe it as the result of extensive public consultation, and as a tool for staff and the public to both enable sustainability-focused projects and hold the municipal government accountable for their actions or lack thereof (J. Lee 2013, Interview).

Many of the planners who worked on the *OurWinnipeg* plan see the city as a community space in which citizens look out for each other. As planner Justin Lee notes, the sustainability focus of *OurWinnipeg* comes out of "a recognition [within the City administration] that we as a society need to see things holistically" (J. Lee 2013, Interview). While this is far from a wholesale endorsement of a municipal climate change agenda, it certainly includes the possibility of such action.

Despite its promise, not all are convinced that *OurWinnipeg* really represents a change in direction. Others suggest that Winnipeg has a history of ignoring or readily amending its city planning documents when the contents do not correspond to the goals of the moment (Cohoe 2013, Interview; Sandhurst 2013, Interview; Kelcey 2013, Interview). Moreover, Councillor Jenny Gerbasi argues that the sustainability focus of *OurWinnipeg* was not the result of commitment on the part of politicians, but rather of the funding source: the FCM's Green Municipal Fund (Gerbasi 2013, Interview).

Kelcey argues that in the first four years of Katz's mayoralty (2004-2008) policy was decided through what he calls, tongue-in-cheek, the "twelve mayor system" in which whoever could "yell loudest" and get Katz to sign their proposal would be successful in achieving their goals. The mayor allowed others to determine the legislative agenda, leading to what Kelcey

describes as a potentially contradictory mix of both progressive and conservative policy announcements. Kelcey argues that this attitude led to a strengthening of the position of Chief Administrative Officer (CAO), especially beginning in 2011 when Phil Sheegl, a former realtor, developer and long-time friend of the mayor, was appointed to the position. As of early 2013, Kelcey argued that Sheegl was "very much in charge" and that policy at the City of Winnipeg reflected Sheegl's "open [contempt] of the idea that the City really needs any agenda beyond making development work for developers" (Kelcey 2013, Interview).[80]

While the most senior management has not prioritized the environment or shown any evidence of personal commitment to climate change mitigation, some less prominent actors within the administration have done so. For example, Ian Hall, Environmental Coordinator from 2010 to 2013, is a strong believer in municipal climate change action. Before starting at the City of Winnipeg in 2008 as a Policy and Program Planner, Hall gained experience in local sustainable development with the Province of Manitoba doing cultural and heritage conservation planning, and financial sustainability planning with communities. As he describes them, both roles touched on environmental sustainability as well. Hall left his position at the City of Winnipeg in 2013 to become the Director of the Office of Sustainability at the University of Manitoba. His commitment to urban sustainability was evident in the excitement in his voice as he described the attraction of his new job:

> The opportunities at this organization are so phenomenal right now. They are going
>
> through an international design competition. The goal is to be *the* leader in sustainable

---

[80] Sheegl resigned as CAO under a cloud of controversy in October 2013, just prior to the release of an internal audit in which he was implicated in a number of suspicious real estate deals (Kives 2013a, 2013b).

urban development in North America. Registration for the design competition just closed: 723 registrants from 70-something countries. The competition instructions really pushed the envelope…. *And* they have a sustainability strategy *and* they have a sustainability committee that is plugged into the whole management of the University. It's pretty awesome. (Hall 2013, Interview)

Similarly, Sean Madden, whose job as the Community Climate Change Coordinator involved supporting the activities of the Environmental Coordinator, is enthusiastic about climate change mitigation at the local level (Madden 2013, Interview). Kevin Nixon, the Active Transportation Coordinator (2007-2015), likewise believes in the science of climate change and is committed to mitigating greenhouse gas emissions, although is less exuberant than the others in his discussion of the issue (Nixon 2013, Interview).

Overall, evidence suggests that while some policymakers are personally committed to climate change mitigation, and in particular, actions by municipal governments to reduce greenhouse gas emissions, they do not hold senior positions with great influence over policy outcomes. Kevin Nixon, Sean Madden and Ian Hall were middle-level staff members with little influence outside their line departments, and Jenny Gerbasi has been outside of the mayor's political coalition since Sam Katz was elected in 2004. The only senior official to be personally committed to climate change mitigation was Mayor Glen Murray who held office from 1998 to 2004. As discussed below, under his leadership, the City took some important steps including signing the FCM's Partners for Climate Protection agreement, beginning a landfill gas capture project, establishing a Civic Environment Committee, and hiring an Environmental Coordinator. However, consistent with the hypotheses forwarded here, in the ten years since Murray left Winnipeg politics, municipal climate change policy has not continued along this trajectory.

214

5.3   Four Cases of Climate Change Policy Adoption

As demonstrated above, in Winnipeg there is no administrative department dedicated to environmental or sustainability concerns and there have not been many policymakers in pivotal positions who were strongly committed to municipal climate change action. Close examination of climate policies in four issue areas (landfill management, cycling infrastructure, fleet management, and building regulation) suggests that, as expected and consistent with the general findings above, political economy factors were critically important for policy outcomes in Winnipeg.

In the specific cases of policy adoption considered here, the hypothesis that cities with an independent environment department are more likely to overcome the barriers imposed by political economy factors leads to a number of specific empirical predictions. In sectors where there is no official policy or only policy that is expected to lead to very limited GHG emission reductions, there should be evidence of explicit and implicit business influence (e.g., lobbying against climate policy by economic actors, policymakers who prioritize economic growth), public opposition to climate policy, low levels of public attention to the policy areas and climate change in particular at the time of policy adoption, and that policymakers adopt only policy that is likely to lead to net benefits and cost savings for the local government. If we see the unsuccessful intervention of policy champions, this evidence would weaken that alternative hypothesis.

For Winnipeg climate policy that is likely to more substantially reduce GHG emissions, we should observe conflicting pressures from business interests (implicit and explicit) and citizens. Alternatively, it might not be obvious to policymakers what economic actors or citizens want. We might also observe moderate to high levels of public attention, but the policies

215

adopted should not impose net costs on the local government. If we observe effective intervention by climate policy champions, it would support that alternative hypothesis.

5.3.1   Landfill Gas Capture

As explained in Chapter 3, landfill gas (LFG) is the gas produced by decomposing organic materials in landfills. The gas is mostly composed of methane, which is an extremely powerful greenhouse gas at 21 times the strength of carbon dioxide (IPCC 2007). Methane is also the cause of the unpleasant smell often associated with landfills and it is highly explosive. Leaving landfill gas to dissipate into the air is thus harmful to the global climate, unpleasant, and potentially dangerous for employees and neighbours.

Landfill owners and operators, including municipal governments, can reduce the harms caused by LFG by capturing the gas. This can be done by drilling wells into closed sections of the landfill and laying a system of permeable pipes. The pipes capture and transport the gas to a central location where it can be "flared" (i.e. burned to transform it into the less harmful carbon dioxide) or "utilized" for the production of heat, electricity or fuel.

The City of Winnipeg began the process of creating a policy mandating the capture of LFG at its Brady Road landfill site in 2002, but the process stalled in 2005-2006. Although a system to capture and flare the gas became operational in July 2013, it is not the result of City policy. Rather, the Province of Manitoba intervened in 2008 and mandated its development and completion as the landfill was one of the largest single sources of greenhouse gas emissions in the province.

However, LFG projects are expensive. Consistent with expectations about policymakers' concern about cost savings, both politicians and staff justified the initial investigations of LFG capture not only on environmental grounds, but also on the basis of potential economic gain.

216

Tony Kuluk noted that the initial investigation of LFG capture projects was the result of "an interest in whether there was not only a benefit from mitigating the methane, but using it as an energy source" (Kuluk 2013, Interview). He further implied that climate change mitigation is a hard sell within the Winnipeg government, arguing that

> [staff] initially started looking at opportunities because of concerns for the environment. If you can marry that with a business case, now you have a better chance at selling the project. You can have the best arguments for the environment and not be able to get funding or support for it. (Kuluk 2013, Interview)

In 2001, in partnership with the provincial utility, Manitoba Hydro, and the Province of Manitoba, the City of Winnipeg initiated a pre-feasibility study of opportunities for gas capture and utilization at area landfills. The study, completed in 2002, concluded that there were opportunities at all four sites, and recommended further research be undertaken at the largest, and only active, landfill at Brady Road (Winnipeg 2002). After the City secured funding from the FCM's Green Municipal Fund (GMF), the Brady Road Landfill feasibility study was conducted between April 2004 and August 2005.[81] The result was the proposal of two feasible scenarios – generating electricity for on-site use and sale, or transportation of the LFG to the University of Manitoba for use as heating fuel. The study authors recommended the first option as the logistics of building a pipeline to the university would be "prohibitive" (GMF 2005, 2).

---

[81] The study included three main elements: modeling of projected gas yields, field tests of actual conditions, and financial analysis of end-use options. The modeling predicted the likely quality and quantity of gas produced based on projected disposal rates to 2100, the field tests measured "flow rates, composition, temperature and pressure, as well as trace contaminant concentrations" (GMF 2005, 2), by means of six test wells and fourteen gas pressure probes. The financial analyses examined the scenarios of flaring, electricity generation and sale of the gas as fuel.

In sum, the findings of both the 2002 and 2005 studies suggested that there was a positive business case for capture and utilization at the Brady Road site – that the gas collected would be sufficient for profitable electricity generation and to pay for the capital investment. Likewise, initial news releases and media reports suggest that while municipal policymakers, including Mayor Glen Murray, were enthusiastic about the environmental implications of the project, they were particularly interested in the potential financial benefits, both in the initial study stages of the project and in the later announcements. For example, statements in the 2002 official news release (Winnipeg 2002) and a CBC report (CBC 2002) focus on the potential for energy production. In 2005 the CBC reported that sales of carbon credits from methane capture at the Brady Road site could generate income (CBC 2005).[82]

This enthusiasm soon waned. In 2006 the LFG project was mentioned, very briefly, in the City's environmental update – but only as a new project to be started. No further details were provided. After this brief mention, there is no evidence of the project in planning documents or any other reports internal to the administration, to Council, or in the media. This, combined with the omission of this period by interview respondents, suggests that not much happened in the period following the release of the feasibility study in 2005 (Kuluk 2013, Interview). The 2005-2006 period in Winnipeg is described by Gordon (2008) as being characterized by a lag in climate policy and attention, a claim supported by an "observable gap in climate change policy,

---

[82] It is not clear, however, that municipal and provincial officials had a firm grasp on the details of how such a system would work (CBC 2005).

the abandonment of [two sustainability strategies], and the non-renewal of the [Civic

Environment Committee] in December 2005" (Gordon 2008, 89).

The timing of this gap in policy development is consistent with the alternative hypothesis

regarding the influence of personally committed individuals: Mayor Sam Katz, who had no

personal attachment to the issues of climate change or landfill management, replaced Mayor

Glen Murray in late 2004. However, the timing of this slowdown also corresponds with trends in

public attention to climate change. It happened in the period before the uptick in the issue

salience of climate change across the country from 2006 to 2008 noted by scholars (e.g.,

Harrison 2007, 2012) and that is evident in the Google Trends data presented in Figure 5.2,

below.

Figure 5.2 Landfill Gas Capture and Public Attention to Climate Change in Winnipeg
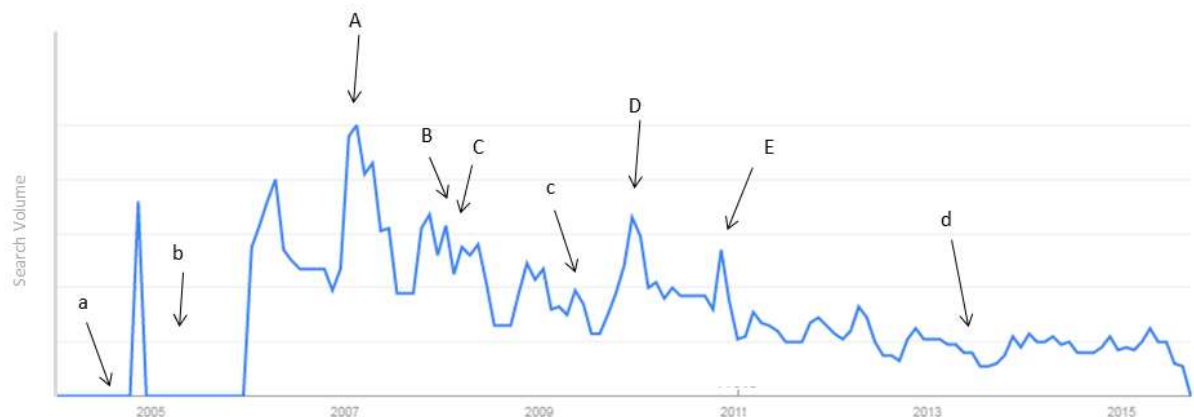
Search terms: "climate change" + "global warming"
Municipal Events: a = Election of Mayor Sam Katz; b = Release of report predicting profits for LFG program; c = Adoption of municipal climate change action plan; d = LFG project begins operation
Provincial, Federal and International Events: A = Announcement of federal *Turning the Corner* plan; B = Adoption of provincial climate change legislation; C = Adoption of provincial landfill regulation; D = COP 15; E = Provincial deadline for implementation of the LFG capture program
Data source: Google Trends. See Figure 5.1 for methodological notes on this data.

However, the shifts in public attention to climate change do not correspond to patterns of

attention to landfill management. Consistent with the expectations outlined in Chapter 3, the

public pays little attention to landfill management and this lack of attention is constant across

219

time. While residents are often highly vocal on the subject of waste collection, what happens to the refuse once it is removed from residents' driveways is largely ignored by the public. Landfill management is a technical issue that most citizens are happy to leave to professionals (Kuluk 2013, Interview).

Neither citizens, nor organized groups campaigned or commented on the issue of landfill gas at any point in the twelve years from the announcement of the first exploratory study to the completion of the project. In fact, with the exception of a few media reports interspersed through the years (e.g., CBC 2002, 2005; Kives 2010; Welch 2011; *Winnipeg Sun* 2012; Skerritt 2012), there was no public discussion of the issue at all. While the licensing process involved public consultation – the Water and Waste Department advertised for feedback in the local newspaper, published information about the project on their website, and mailed printed information to approximately 3,500 homes (Kuluk 2013, Interview) – neither the department nor the provincial government heard anything in response from business, citizens, or NGOs (Coulter 2009).

Moreover, the financial incentives for the creation of a landfill gas utilization project changed in the second half of the decade. Kuluk suggests that there was increased financial risk: "energy values started to fall, some financial liability [issues came up]…. Not being able to *guarantee* a certain quantity and quality [of gas] made it worse" (Kuluk 2013, Interview). This explanation seems plausible, especially given news reports about Manitoba Hydro having been unwilling to buy the electricity at higher than market prices (Welch 2011). Because Manitoba's electricity is largely generated by low-cost hydropower, as a rule the market price for electricity is lower than would be necessary to make an LFG cogeneration project economically feasible.

Consistent with expectations, nothing happened on this file until the announcement in 2008 of an upcoming provincial law mandating LFG capture. In June 2008 the Province of

220

Manitoba's *Climate Change and Emissions Reductions Act* received royal assent. Section 15 of the *Act* requires that landfill gas capture must be implemented in the province's three largest landfills (including the Brady Road site) by December 31, 2010. In response, the Water and Waste Department put forward a Request for Proposals (RFP) in 2009, allowing for three different options for utilization, and requiring that the contracted party provide its own financing (Winnipeg 2009). This process failed: no one was awarded the contract. In July 2010 the *Winnipeg Free Press* reported that City solid waste managers said the plan was "behind schedule 'due to the complexities involved' in awarding a contract" (Kives 2010).

In late 2010 the City applied to the Province for an extension to the December 2010 implementation deadline, citing the creation of a new solid waste plan. They were granted a one year extension to December 31, 2011 (Braun 2010). In 2012 the City put out a new RFP that does not explicitly include utilization options other than flaring, and does not require the contracted party to have access to financing (Winnipeg 2012). The Manager of Solid Waste Services, told the media in 2012 that low natural gas prices restricted private-sector investment in the project (*Winnipeg Sun* 2012; Skerritt 2012), which led to the decision to abandon the requirement for LFG utilization. This RFP was successful and well-drilling began in November 2012. The project officially began operations in July 2013 (J. Lee 2013, personal communication).

This sequence of events further points to the importance of avoiding costs as a disincentive to municipal climate change action. In the end, it seems that costs would have prevented the completion of the project were it not for the regulatory influence of the provincial government. Asked directly why the City of Winnipeg has a landfill gas project, Tony Kuluk responded: "It's required by the provincial government. We have to" (Kuluk 2013, Interview).

This explanation is supported by the timing of the provincial *Emissions Reduction Act* and the Water and Waste Department's request in 2008 for funding to begin the licensing of the project. Only in anticipation and in response to the provincial law did the City begin to take concrete action towards building the project.

There is no evidence that public opinion or any kind of business influence (explicit or implicit) had an impact on landfill gas management policy outcomes.

5.3.2   Fleet Management

Policies to reduce GHG emissions from vehicles owned and operated by the City government – green fleet policies – are another way that municipalities can contribute to climate change mitigation. Municipal fleet management departments aim to maximize the efficiency of the City's vehicle fleet and thus reduce costs. One of the easiest ways to achieve this is to improve the overall fuel efficiency (and thus reduce total fuel use) of the fleet. Green fleet policies, which explicitly aim to reduce greenhouse gas emissions, are one tool that fleet management departments can use to decrease costs by reducing overall fuel consumption. That the City has a green fleet policy is consistent with the political economy hypothesis that policymakers seek to achieve cost savings. Furthermore, the limited nature of the policy is consistent with the hypothesis that independent environment departments facilitate high impact climate policy.

The Winnipeg Fleet Management Agency (WFMA) procures, manages and maintains all of the vehicles operated by the departments and agencies of the City of Winnipeg, with the exception of Winnipeg Transit buses. Prior to the WFMA's establishment as a Special Operating Agency in 2003, fleet services were handled separately by each City department.

222

City of Winnipeg Special Operating Agencies are alternative service delivery organizations that are designed to maximize efficiency and profits. They operate on five-year business plans, and report to the City's Alternative Service Delivery Committee. This model gives the WFMA more autonomy than a traditional department. There is a possibility of greater leadership continuity as the Chief Operating Officer is a permanent staff position rather than a five-year term as is the case for the Directors of departments,[83] and Special Operating Agencies are subject to less political intervention as they do not report regularly to committees or Council. With a few exceptions, such as the adoption of the Green Fleet Plan, the WFMA's only contact with the legislative branch of the municipal government is when it presents its annual business plan to the Alternative Service Delivery Committee.

The WFMA has been successful as a Special Operating Agency in terms of producing cost savings for the City of Winnipeg (Lupien 2009, 359; St. George 2007, 3). Immediately following the restructuring, most savings resulted from eliminating duplication of services among the departments and implementing a life-cycle costing program. Because the WFMA purchases, maintains, and disposes of all City vehicles, they are in a position to consider all costs associated with each vehicle, including fuel efficiency, maintenance, and disposal, rather than simply the initial purchase cost (St. George 2007, 2).

At 35% in 2007, the municipal fleet is the source of a significant portion of the City of Winnipeg's corporate GHG emissions. In 2007, while the City had reduced its total corporate emissions by about 14,000 tonnes of CO_2e compared to 1998 levels, almost none of this was

---

[83] In practice, there has not been much difference in tenure. Yvan Lupien was the driving force behind the creation of the Winnipeg Fleet Management Agency as a Special Operating Agency and was the first Chief Operating Officer from 2003-2009. His successor, Herb Hajer, was appointed in 2009 and served until 2013. Dennis Konowich was appointed Chief Operating Officer in January 2014.

from the fleet sector.[84] In 2008 the City of Winnipeg adopted a Corporate Climate Change Action Plan. In this plan the City committed to reducing greenhouse gases emissions resulting from its own activities. Subsequently, Council directed the public service to develop a Green Vehicle Plan. The WFMA proposed the Green Fleet Plan in 2009 and it was adopted in 2010.[85] The Green Fleet Plan includes a number of specific actions that may result in greenhouse gas emission reductions, including efforts to "right size" the fleet, purchase more fuel efficient vehicles, reduce engine idling, and explore alternative fuels and technologies.

Despite the significant contribution of the Winnipeg fleet to overall corporate GHG emissions, the Winnipeg Green Fleet Plan has limited scope. By definition, the municipal green fleet policies apply only to the corporate fleet rather than to all vehicles in the community, but the Winnipeg Green Fleet Plan is further limited by the exclusion of Winnipeg Transit vehicles.[86] When it was adopted in 2010, the Plan covered the 1600 units managed by the WFMA and the 500 units managed by the Police and Fire departments. It excludes the 600 units (buses and light duty vehicles) managed by Winnipeg Transit. While Transit vehicles made up a small proportion

---

[84] In 1998 the municipal fleet emitted 18,885 tonnes CO_2e. In 2007 it emitted 18,771 tonnes CO_2e (Winnipeg 2010, 15).

[85] The plan was written and managed by the WFMA. The Green Fleet Plan Committee reviewed the plan and made recommendations, and support was also received from the City's GHG Reduction Committee and the Mayor's Environmental Advisory Committee (MEAC). The WFMA worked with the client departments to implement the actions outlined in the Plan. In the lead up to writing the Plan, staff at the WFMA studied existing green fleet strategies from other jurisdictions, reviewed existing environmental practices at the City of Winnipeg as well as industry best practices (Winnipeg 2010, 12).

[86] Winnipeg Transit is a separate department and manages its own fleet. The Winnipeg Fleet Management Agency does not have authority to unilaterally make decisions regarding transit vehicles, but it can consult with Winnipeg Transit and act in concert with that organization.

of the total number of the City's vehicles (just over 20%), emissions from buses account for over

70% of the total municipal fleet emissions (Winnipeg 2010, 18-19).[87]

The coerciveness of Winnipeg's green fleet policy depends on the specific provisions of

each of the actions. While many of the actions in the Plan are formulated using imperative

language, many are continuations of actions already in place,[88] actions taken to comply with

provincial mandates, or are not associated with direct emissions reductions as they are

instructions to form working groups or consider options. Moreover, most of the seemingly

coercive requirements involve cost savings (which makes it likely that the actions would be

taken even in the absence of coercive language), include explicit avenues for not implementing

the action (e.g., language such as "if operationally feasible"), or are not enforceable.

In the 2011 Annual Report, the WFMA states that less than half of the Green Fleet Plan

actions had been implemented (21 of 54),[89] including purchasing light duty diesel rather than

gasoline vehicles; right-sizing new vehicles; using provincially mandated levels of biodiesel and

ethanol; adopting automatic odometer readings at fuel sites; placing anti-idling signs at police

stations, including idle-reduction information in driver training programs, and installing

---

[87] The Plan indicates that an amendment would be made in 2011 to include Transit (Winnipeg 2010, 13), but this amendment was never put forward. The Winnipeg Police Service and Winnipeg Fire and Paramedic Department are responsible for managing the implementation of the Plan for their respective fleets, and those vehicles are subject to less ambitious requirements than WFMA-managed units (Winnipeg 2010, 19). Moreover, the Plan includes a requirement for the WFMA to submit annual reports (with input from participating departments and special operating agencies) on the progress made towards implementation and emissions reductions so as to "ensure that the City is working toward achieving the targeted emission reduction" (Winnipeg 2010, 14), but this was only done for the 2011 year.

[88] These include the anti-idling policy which requires City employees to turn off vehicles if stationary for more than three minutes, subject to many exceptions. This policy was created in 2006 and amended in 2009. Other examples include the directive to replace older units with more fuel efficient newer units, and including fuel efficiency as a "key criterion in all…vehicle purchasing tenders" (Winnipeg 2010, 16).

[89] There were 45 actions in the initial Green Fleet Plan. The 2011 Annual Report added 9 actions, some of which had already been implemented.

automatic shut-offs in City vehicles; purchasing police vehicles with tire pressure monitoring systems; and establishing a working group to study employee travel during the work day and for commuting (Winnipeg EPC 2012, 6). Annual reports were not produced for 2012 or 2013.

What explains the adoption and minimal implementation of this limited policy to "green" the Winnipeg fleet? I argue that the adoption of Winnipeg's Green Fleet Plan – in particular given its particular provisions – is consistent with the theory that except where there is an independent environment department within the municipal bureaucracy, local climate change policy is driven by political economy factors. While former political staffer Brian Kelcey argues that the plan came about because of the whim of a city councillor, the limited implementation and reporting is further evidence of the power of political economy factors in this case.

Kelcey argues that the idea of the Green Fleet Plan emerged during Council investigation of all Special Operating Agencies following allegations of mismanagement. In the investigation of the WFMA, Councillor Justin Swandel allegedly asked "Hey, are you guys, when you're looking for new vehicles, are you looking for hybrid options? Are you looking for fuel efficient options?" and according to Kelcey, because the WFMA responded in the negative, the City now has a hybrid-friendly fleet policy (Kelcey 2013, Interview). This account is supported by an article in the *Winnipeg Free Press* reporting on the meeting with the SOA. According to Kevin Rollason,

> Swandel said he wants city council to approve a plan to buy only hybrid vehicles unless there are specific vehicle-operating reasons not to. "Right now we've only 30 hybrid vehicles even though the hybrid can be financially, operationally and environmentally better," he said. (Rollason 2007)

Kelcey suggests that this proposal was a whim of the moment and was not made in consultation with staff, environmental groups or the City's Environmental Coordinator. Rather, he says, Swandel is a relatively liberal councillor and he thought it would be a good idea. Accordingly, the direction was simply to promote hybrid vehicles, rather than the technology that would result in the most fuel efficient outcomes (Kelsey 2013, Interview). According to Rollason (2007), Councillor Dan Vandal was explicitly supportive of Swandel's motion.[90]

Figure 5.3 Green Fleet Policy and Public Attention to Climate Change in Winnipeg
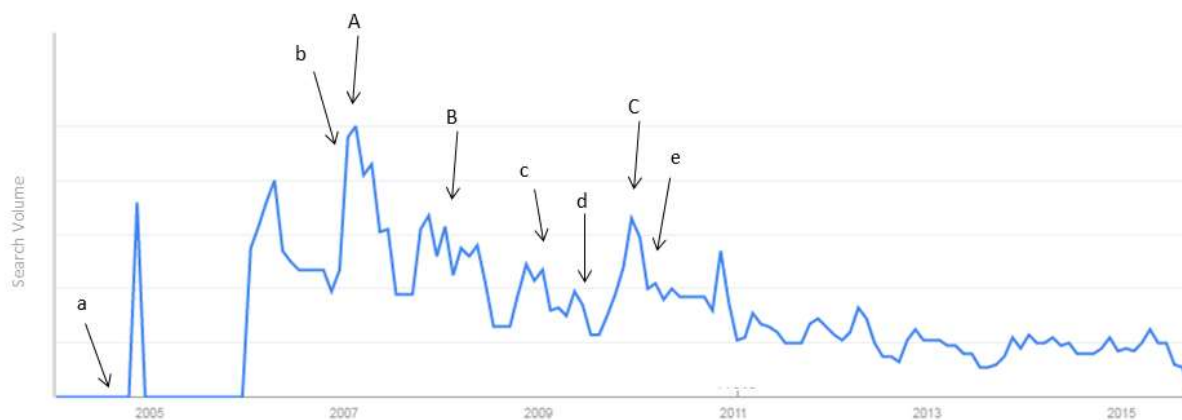
Search terms: "climate change" + "global warming"
Municipal Events: a = Election of Mayor Sam Katz; b = Instruction to create green fleet policy; c = Proposal of green fleet plan; d = Adoption of municipal climate change action plan; e = Adoption of green fleet plan
Provincial, Federal and International Events: A = Announcement of federal *Turning the Corner* plan; B = Adoption of provincial climate change legislation; C = COP 15
Data source: Google Trends. See Figure 5.1 for methodological notes on this data.

Although this account gives primacy to the role of specific individuals, the process of creating and adopting the Winnipeg Green Fleet Plan is consistent with expectations for climate policy that is largely driven by political economy factors. While City vehicles are all clearly marked and thus, to some extent, publicly visible manifestations of the municipal government,

---

[90] The official record is consistent with these accounts. On November 8, 2007, Councillors Vandal and Swandel moved and seconded a motion to "recommend to the Executive Policy Committee that City adopt a 'Green Fleet Policy' that would utilize hybrid vehicles where suitable and appropriate" (Winnipeg ASD 2007, Minute 6). Rollason does not mention the future plan, only the recommendation to buy hybrid cars.

the systems by which they are purchased, operated, and maintained are rarely subjects of public attention. In the run-up to the adoption of the Green Fleet Plan there was no lobbying by citizens or NGOs; politicians and staff perceived the policy to be of low priority to the public, as illustrated by the lack of mention of the impact of the policy on actors other than City departments and SOAs; and there are clear indications in the content and in the justifications of the policy that economic considerations were at least as important as GHG reductions. However, the timing of Swandel's motion corresponds, as predicted by the hypothesis about issue salience, to a peak in public attention to climate change (see Figure 5.3, above).

By virtue of their limited scope, green fleet policies cannot have a large impact on the total greenhouse gases emitted in the city (including both corporate and community emissions). In this case, the exclusion of transit vehicles further limits the policy's scope. Moreover, due to these scope restrictions, the Plan has no direct impact on citizens who are not City employees. It is therefore unsurprising that there is little evidence of lobbying on this subject – for or against – by citizens, NGOs or other stakeholders: only one citizen suggestion to the Mayor's Environmental Advisory Committee that hybrid cars be used (Winnipeg MEAC 2009). There was also minimal media coverage of the Green Fleet Plan or environmental issues relating to the municipal fleet: two City of Winnipeg press releases and three mentions in the *Winnipeg Free Press*. The press releases were put out in January 2010 noting the MEAC recommendation that the Plan include Transit, Fire and Police fleets, and in September 2012 coinciding with the 2011 annual report. Only one of the three *Free Press* articles specifically mentions the Green Fleet Plan – it reports that the Plan has been adopted and provides a brief summary (Kives 2010). The other two were published prior to the adoption of the Green Fleet Plan. One reports in November 2007 that the Alternative Service Delivery Committee recommended that the WFMA buy hybrid

228

vehicles (Rollason 2007), and the other describes the WFMA's 2007-2009 biodiesel pilot study (Kives 2009).

Taken together, the foregoing suggests that while trends in public attention to climate change may have had a limited influence, with the exception of concern about costs to the local government, other political economy factors – public attention to green fleet policy in particular, public opinion, and explicit and implicit business influence – did not determine the outcomes for this policy area.

The observed emphasis on economic gains resulting from reductions in fuel use is consistent with the hypothesis that a desire for cost savings motivated the adoption of this policy. The Green Fleet Plan is firmly embedded in the WFMA's philosophy of economic efficiency: the plan explicitly states that the goals of emissions reductions will be achieved "while maintaining or increasing the level of service[s]" provided (Green Fleet Plan 2010, 13); that the plan was anticipated to lead to result in net savings for the City of $900,000 over ten years (Winnipeg 2010, 13); and, that all actions "will be implemented using the principles of life cycle cost management" (Winnipeg 2010, 23) so that service levels are not affected. This last requirement includes consideration of "vehicle capital cost; vehicle operating cost; vehicle functionality (ensuring the vehicle meets operational requirements); vehicle useful life; vehicle resale value; and vehicle maintenance requirements" (Winnipeg 2010, 23).[91]

This emphasis on economic benefits is reinforced by the WFMA's Special Operating Agency status which requires it to function like a business for which City departments and other

---

[91] While the main emphasis of the Winnipeg Green Fleet Plan is on cost savings and greenhouse gas emission reductions, the authors also justify the plan in terms of the health benefits that will result from the reduction of other air pollutants, including volatile organic compounds (VOCs), nitrogen oxides (NOx), particulate matter (PM), carbon monoxide (CO), and sulfur oxides (SOx) (Winnipeg 2010, 15).

Special Operating Agencies are customers. Because of this, the WFMA must achieve savings without imposing an unequal burden on any department. The Green Fleet Plan emphasizes that the actions will be implemented in such a way so as to achieve "cost neutrality" across departments (Winnipeg 2010, 32). While not acknowledged, this may result in suboptimal overall greenhouse gas reductions.

The characteristics of the 54 actions included in the Green Fleet Plan shed light on the motivations of policymakers at the City of Winnipeg: only a few involve net costs, more involve net benefits and none would be politically controversial. Four actions related to communications, employee training and administrative tasks are likely to have net costs, but these costs are likely to be small. In contrast, sixteen of the actions appear to provide obvious net benefits. While none of the actions would be difficult to implement from a political perspective, twenty-seven are likely to present administrative challenges. A full nineteen of the actions do not involve direct greenhouse gas reductions as they are exploratory: the main verb is "investigate", "assess", "study", or similar. The tendency towards economic efficiency – avoiding costs and maximizing benefits – is even more evident in the comparison of actions that were and were not implemented. Of those actions that were reported to be implemented in the 2011 Annual Report, only one involved net costs, eight were likely to result in net benefits, nine were likely to be administratively difficult and four involved consideration of potential future actions. In contrast, of those not implemented by 2011, three would likely lead to net costs, eight to net benefits, eighteen would be administratively difficult to implement, and fourteen involved further study. In sum, the content of the Green Fleet Plan and the way in which it was implemented suggests that policymakers are concerned about minimizing financial costs and maximizing financial

benefits. This supports the hypothesis that political economy considerations are the key factor in the decision to adopt this policy.

It is possible that the Green Fleet Plan was adopted because of the actions of particular dedicated individuals within the City administration. However, this explanation is unconvincing in this case. As per the directive of the Executive Policy Committee, the WFMA led the process of developing the Green Fleet Plan, assisted by the Environmental Coordinator (Winnipeg 2010, 12). This arrangement placed the Chief Operating Officer of the WFMA, Herb Hajer, at the centre of the process. Environmental concerns are not a personal passion for Hajer, who was COO from 2009 to 2013 during the period in which the Green Fleet Plan was created and adopted. Hajer was appointed Chief Operating Officer of the WFMA because of his experience with fleet management as owner of a private limousine company. He has no educational or professional background in environmental issues. Moreover, Patti Regan, former Acting Environmental Coordinator, indicates that Hajer was minimally involved in the practicalities of the creation of the plan (Regan 2013, Interview). To the extent that he *was* involved in the process, Hajer's own comments about the role of green fleet initiatives within the WFMA's operations suggest that he views them as secondary to other goals. He argued that "the WFMA's first priority is daily operation: making sure the place still works" (Hajer 2013, Interview). Once this is ensured, they then can consider other policies regarding topics such as idling or new technology. Hajer argued that Winnipeg's climate is too harsh for many alternative technologies and that it is difficult to reduce emissions when the city's population and services are expanding. In a comment that belies his own economic priorities as well as those of the WFMA and the City of Winnipeg more generally, Hajer noted: "Winnipeg can't afford to be a leader, but I'm looking

231

forward to the future. In three years we'll probably be ready. We can be in the second round" (Hajer 2013, Interview).

Patti Regan, as Acting Environmental Coordinator, helped Project Coordinator Ajaleigh Williams to get the plan approved by Council, although she was not involved in the elaboration of the plan itself (Regan 2014, Interview). Regan does not have an environmental background, and of the multiple positions she held at the City of Winnipeg during her 30-year career, this one-year acting position was the only one directly related to environmental issues. Regan notes that her understanding and commitment to environmental issues, and climate change specifically, increased substantially during her tenure as Acting Environmental Coordinator (Regan 2014, Interview). Williams was the lead developer of the plan and was the author of the initial Green Fleet Plan report in 2010 and the 2011 Annual Report.

Ian Hall, Environmental Coordinator, was involved in the process of developing the 2011 Annual Report. Sean Madden, who later became the Community Climate Change Coordinator, was also involved in developing the contents of the plan as the Project Coordinator under Williams' management (Madden 2013, Interview; Regan 2014, Interview). As noted above, both Hall and Madden are personally committed to climate change mitigation and see the municipal government as an important actor. However, for all of these individuals their positions within the City administration, role in the process, and the timing of their involvement limited these staff members' ability to influence the content and tone of the Green Fleet Plan.

5.3.3 Cycling Infrastructure

Creating cycling infrastructure is another way that cities can act to reduce greenhouse gas emissions. Compared to Brampton, Winnipeg has an extensive and well-equipped cycling network. Despite similar (or even more extreme) winter conditions, Winnipeggers have access to

both on-street dedicated bicycle lanes and to separated bicycle lanes on Assiniboine Avenue and

Pembina Highway. Winnipeg boasts an active cycling community that includes recreational

cyclists, commuters, and a number of cooperative bicycle shops (Swanson 2013, Interview;

Cohoe 2013, Interview). However, the creation of separated bicycle lanes and cycle tracks has

been slow, inconsistent and marked by controversy.

Winnipeg's cycling network began with the Riverwalk Pathway system that came out of

the Cycling Study in the early 1990s (McKechnie 2013, Interview). This report, and the network

of pathways that resulted, focused on cycling as a recreational activity. Beginning at that point

some on-street bicycle lanes and routes were created on an ad hoc basis, resulting in a patchwork

network of dedicated cycling infrastructure. In 2007, the City of Winnipeg established a

dedicated Active Transportation (AT) Coordinator position, housed in the Public Works

Department. The AT Coordinator is responsible for proposing and managing all cycling and

walking infrastructure and programs in the city, as well as chairing the Active Transportation

Advisory Committee (ATAC) that reports to the Director of Public Works.

Three bicycle lanes – on Assiniboine Avenue, Sherbrook Street and Pembina Highway –

that were among the projects funded in 2007 met with varying degrees of success. The Pembina

Highway buffered lane was relatively easily implemented and was the most successful; the

Assiniboine lane met with some controversy but has been completed; and the Sherbrook lane has

yet to be completed having faced significant opposition from area businesses.

The difficulty that the City of Winnipeg has encountered in creating cycling infrastructure

is consistent with the political economy hypotheses. Because Winnipeg has created cycle tracks

only to a limited degree, I expect to observe explicit opposition from business, little public

support for cycling infrastructure, a perception by politicians and administrators that cycling

infrastructure is a low priority among the electorate, that arguments made in favour of these projects will be based on considerations other than climate change mitigation – for example, public opinion, requests from constituents, avoiding concentrated costs for citizens, and achieving cost savings for the municipal government. If observed, these features will serve as evidence supporting the hypothesis regarding the dampening effect of political economy factors on climate change mitigation policy.

Evidence from the City's experience with cycling infrastructure suggests that Winnipeg businesses are very concerned about maintaining the availability of parking spaces adjacent to their property and communicate this loudly and explicitly to policymakers. All three of the major cycling infrastructure projects encountered resistance from businesses in the corridor, primarily because of potential losses of parking spaces. Kevin Nixon, Winnipeg's AT Coordinator, describes a major barrier to the construction of the Sherbrook lane:

> What happened was that we got into confrontations with the business community in the area. Because there's a stretch there where there's no room to put [a bicycle lane] in as is, so you have to take out parking. So businesses are going to lose some parking. And businesses are often up in arms about losing parking. (Nixon 2013, Interview)

Moreover, evidence suggests that politicians and staff were particularly sensitive to the demands made by businesses related to parking availability. Although staff are not directly affected by electoral pressure, they must follow the direction of City Council. Nixon believes that politicians in Winnipeg "have way more control currently than most cities…[certainly] more control than we would like, than the administration would like them to have. Right now, there's a lot of micromanagement from politicians" (Nixon 2013, Interview).

Nixon and his colleagues did not anticipate the level of opposition they would face with regard to the bicycle lane on Sherbrook Street, particularly since the lane was not planned as physically separated from traffic. They had been told by the local Business Improvement Zone (BIZ) that an internal survey was supportive of the lane, but the organization later retracted their support. Nixon surmised that "they ran into a few businesses that were adamantly against it," and that as a result the group changed its position (Nixon 2013, Interview).

Although Council had approved the project in advance, Nixon says that opposition from businesses created such tension that they decided to delay construction and undertake further consultation. Likewise, the construction of the Assiniboine cycle track was delayed by business opposition. However, in this case businesses began to openly oppose the project after construction began. For example, some firms located adjacent to Assiniboine Avenue filed a lawsuit against the City, alleging that the new lane unfairly restricted access to their business. Staff were surprised by the opposition: "[For] Sherbrook, throughout the public consultation process, we knew there was this issue. People were going to Council to complain that they weren't happy. That didn't happen until we started building it on Assiniboine" (Nixon 2013, Interview).

Nixon argues that the Assiniboine lane was a more complicated project than the one on Sherbrook Street, and that they were very conscious about potential opposition to reduction in parking spaces. The construction of the cycle track changed the traffic pattern on the street – especially during peak hours when it had been used as a short cut by motorists. By making part of the street one-way and creating a separated lane for cyclists, traffic has been significantly reduced. In the end, although many parking spots were relocated, the net loss was only six spaces. Nevertheless, there were many complaints and City staff, having failed to document all

of their interactions with stakeholders, could not show that they had adequately consulted with local businesses (Nixon 2013, Interview).

There was also some opposition from citizens who said that there was insufficient bicycle traffic on the cycle track to justify the disruption. Beth McKechnie, member of ATAC, responded that part of the reason for lower than expected traffic was that just after the cycle track was constructed, the City began work to rehabilitate the adjacent bridge. Nonetheless, she argues that "anytime [she has] been on it in rush hour it's been packed with cyclists. And [she] can't help but think how many more there would be if the bridge hadn't been under construction, because people were choosing different routes as a result" (McKechnie 2013, Interview).

Of the three projects, the Pembina Highway lane is described by staff and members of the ATAC as most successful. Nixon says that staff learned from the controversy over the other projects and were careful to document all meetings and interactions with local stakeholders. The City conducted fewer public consultation meetings than for the other projects, but did extensive one-on-one consultation with area businesses over the course of one year. In order to mitigate the parking concerns of businesses, staff altered the proposed design of the cycle track in order to maintain the parking spaces for those businesses that were most adamant on the subject (Nixon 2013, Interview).

This evidence supports the hypothesis that explicit business influence can impede climate change policy adoption. Comments by Nixon regarding the timing of the projects further reinforce the claim that political economy factors are central. Both the Sherbrook and Assiniboine projects were approved in 2009 as a result of the Canadian federal government's economic stimulus program which led to a joint investment of over $50 million in active transportation infrastructure by the federal and provincial governments. As they had in previous

years, the ATAC proposed a number of new projects to City Council expecting that one or two of them would be approved. Unexpectedly, and because of the influx of funding from other levels of government, 37 of the 38 projects were approved. Because the money did not come out of the municipal budget, there were few incentives to limit projects in order to cut costs.[92]

Moreover, the funding for these projects came through in the year leading up to the municipal election. Kevin Nixon argues that this made the completion of controversial projects, such as the Assiniboine and Sherbrook bikeways, particularly difficult. As noted above, he suggests that in general, "[i]n Winnipeg politicians have probably more say in day-to-day activities than in a lot of cities." In 2009-2010, the lead up to the election made politicians particularly sensitive to public demands. Nixon says: "It just got so hot that there were a bunch of projects that we just said, 'We'll step back, maybe talk to people some more'" (Nixon 2013, Interview).

The lack of political enthusiasm for the specific cycling projects despite their approval by Council is in line with Nixon's view that there was a lack of consistency in City decisions on active transportation issues. Moreover, like Brian Kelcey, Nixon suggests that there are some fundamental tensions between the plans that City Council adopts and the policies and projects that are eventually implemented. In an interview, Nixon stated:

The weird thing about Winnipeg is that we have actually got passed, recently, some pretty progressive policy stuff like our overall plan *OurWinnipeg* [and] *Complete Communities*. Those things are very progressive, very AT friendly. The *Transportation*

---

[92] This turned out to be a mixed blessing. For example, although there was a lot of money available it was not fungible between the projects, and so because of the reality of imperfect advance budgeting, some projects got "extra bells and whistles" whereas others remained incomplete (McKechnie 2013, Interview).

Master Plan is very AT friendly. We haven't had a transportation master plan that

Council would approve in *decades*. So now we have a Council that has approved all these

progressive things, but, administratively, staff still feel like they [politicians] may have

approved these things but they're still not buying into it. I don't know how to describe

that. On the one hand it may be unfair for us to criticize them, because they have

approved these progressive, very current best practices, I guess you might want to call

them. But sometimes we feel like they're not really following them. (Nixon 2013,

Interview)

In addition to political sensitivity to the electoral consequences of businesses' demands,

evidence suggests that neither staff nor politicians perceive climate change policy – and the

creation of cycle tracks in particular – to be a priority among the electorate. Nixon argues that

there is no "cycling culture" in Winnipeg. While there has been an increasing focus on cycling as

a mode of transportation in Winnipeg, Nixon suggests that, in terms of mode-shifting, the City is

more interested in couch-to-walking, or couch-to-cycling…. [The] recreational

opportunity is more important than certainly we originally thought. No one is going to get

off their couch and suddenly start biking to work – at least very few people. The people

who are willing to bike to work, to bike in traffic, are out there already. (Nixon 2013,

Interview)

In order to encourage people to use commuter infrastructure, Nixon argues, they first have to be

convinced to get in shape and be comfortable on a bicycle. So, while infrastructure is important –

and Nixon argues that they are increasingly learning that single-mode infrastructure seems to

work best[93] – even the dedicated staff do not see great demand from citizens for utilitarian cycling infrastructure.

Another piece of evidence that supports the claim that politicians and staff perceive that cycling infrastructure is of low public salience is the poor quality of data available on cycling. While there is extensive monitoring of motor vehicle traffic, there has been no push from Council for equivalent cycling and walking data. Nixon sees the lack of predictive power as "a huge gap in our [active transportation] system" but politicians are seemingly unconcerned. The little data and analysis that is available is mostly the result of the efforts of volunteers. Nixon argues that "one of the things that we really need to get to really high priority is a monitoring strategy. We don't do very much in the way of bicycle and pedestrian counts, unless we have an issue. We do it very reactively" (Nixon 2013, Interview). For example, Nixon and a summer student were working on developing a monitoring program, but it progressed slowly because of the many other projects Nixon is responsible for as the only AT staff person.

Also consistent with the hypothesis, while public attention to climate change has fluctuated, the creation of cycling infrastructure has not followed the trends. As shown below in Figure 5.4, while the Active Transportation Advisory Committee and the Active Transportation Coordinator Position were created at a time of high public attention to climate change, the decisions and activities of the committee were not.

---

[93] Nixon explains as follows: "We're finding that the pedestrian-cycling conflict on multi-use pathways, for instance, is as important as cycling-vehicle conflict on roads" (Nixon 2013, Interview).

Figure 5.4 Cycling Infrastructure and Public Attention to Climate Change in Winnipeg
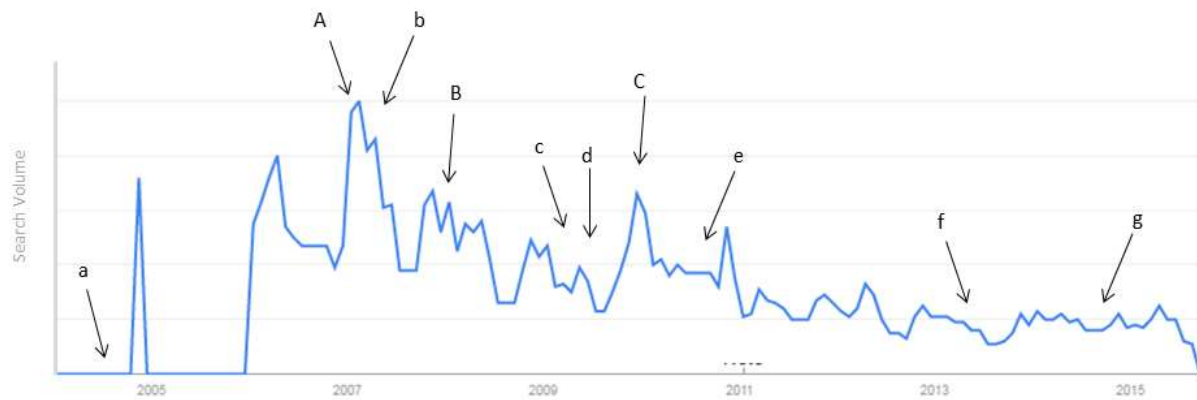
Search terms: "climate change" + "global warming"
Municipal Events: a = Election of Mayor Sam Katz; b = Creation of the Active Transportation Coordinator position and the ATAC; c = Approval of Sherbrook and Assiniboine bike lanes approved; d = Adoption of municipal climate change action plan; e = Construction of Assiniboine bike lane; f = Construction of Pembina Highway bike lane; g = Construction of Sherbrook bike lane
Provincial, Federal and International Events: A = Announcement of federal *Turning the Corner* plan; B = Adoption of provincial climate change legislation; C = COP 15
Data source: Google Trends. See Figure 5.1 for methodological notes on this data.

Further evidence that public attention to climate change has not been the primary motivator of the creation of cycling infrastructure is that climate change is rarely the justification for active transportation projects in Winnipeg. While Kevin Nixon is personally committed to climate change mitigation and sees mode-switching to walking and cycling as part of the solution, this is not the argument he makes to his colleagues or to politicians. Instead, he justifies active transportation policy on the basis of chronic disease prevention. He explains:

> Surprisingly enough there are still a tonne of people who don't believe that human activity is driving climate change. I'm always surprised. While I think there is clear consensus among the scientific community, [for] your average person it's not as clear. I run into people all the time who don't buy it. So it's an argument, and it just wastes my time. No one argues with me when I say "Listen, we have a huge chronic disease issue, and active transportation is part of the solution." And I avoid the whole controversy. (Nixon 2013, Interview)

240

Moreover, while cycle tracks and other dedicated cycling infrastructure are consistent with the content of Winnipeg's *Climate Change Action Plan*, these projects have not been proposed on this basis. Rather, the *Climate Change Action Plan* has been used by those in favour of cycling infrastructure to remind politicians of the commitments they have made to climate change mitigation action, and in particular the incorporation of active transportation into new development and road rehabilitation projects. For example, Mark Cohoe, ATAC member, says members of the ATAC were able to strengthen their push for more cycling infrastructure by referencing existing planning documents. Their message was simply: "Well, according to City policy if we're doing work on this section of roadway we should be including cycling facilities," (Cohoe 2013, Interview). In the particular case of the Pembina Highway cycle track, the highway was already slated to be rehabilitated, but new bicycle lanes were not part of the Public Works Department plans. Anders Swansson argues that the engineers were loath to go back and change the plans they had already created, but because of the provisions of the *Climate Change Action Plan* and other existing plans there was a grey area and he and other members of ATAC were able to convince Council that this was a good opportunity and in line with City policy (Swansson 2013, Interview).

There are a number of environmental groups and cycling advocacy groups in Winnipeg that have been influential in shaping cycling policy in the city, including Bike to the Future, the Green Action Centre, and the Manitoba Trails and Cycling Association. These groups have engaged in lobbying by speaking at City Council meetings and making connections with Councillors and City staff (Cohoe 2013, Interview; McKechnie 2013, Interview; Nixon 2013, Interview). For example, Swansson argues that his presentation at Council was influential in convincing City Council to support the construction of the Pembina Highway cycle track

(Swansson 2013, Interview). I argue, however, that these groups' main source of influence has been as volunteers and sources of expertise, both through the collaboration of individual members with AT Coordinator and through participation in ATAC.

One reason that lobbying has been less successful than might otherwise be expected is that the City recognizes that for the most part, these groups represent members who are already the most committed cyclists (Nixon 2013, Interview). While they push for better commuter infrastructure, they will continue cycle regardless. They are not seen to represent public opinion on the topic. These activists are most convincing, Nixon suggests, when their arguments revolve around the usefulness of policy and infrastructure for citizens who cycle less than their core membership (Nixon 2013, Interview).

While the evidence above suggests that there are strong political economy disincentives to the creation of high impact climate policy in the area of cycling infrastructure, the work of dedicated individuals such as Kevin Nixon helps the City to overcome these barriers to a limited degree. Nixon is not a climate scientist, but he trusts the expertise of others who argue that climate change is a real and important concern (Nixon 2013, Interview). He holds a mid-level administrative position, reporting directly to the Director of Public Works but without the authority to make unilateral decisions or personal access to politicians. Moreover, Nixon argues that because of the nature of their jobs and professional responsibilities, engineers often end up as the final decision-makers for infrastructure projects.

> So if I say: "Listen, I want you to widen this bridge another three inches to allow me to get a bike lane in" and he'll say, "No, my engineering expertise tells me that that will be beyond the bridge's structural capability. No." And when he says "no," that's the end of

it. It drives planners crazy. But it's because that's the way it has to be. [The engineers

are] responsible for the safety of that facility. (Nixon 2013, Interview)

Nixon's position as AT Coordinator within the Public Works Department gives him

access to the City's transportation engineers on a regular basis. This allows him to learn about

the engineering perspective, and for the engineers to be exposed to modes of thinking in urban

planning.

One of the most important things [the administration] did right when they set up this job

was that – I'm a planner – and they put me right among all these guys who are engineers.

They sit around the table and say "No, we're not doing that." I get to bug them every day.

What I call gentle constant pressure. (Nixon 2013, Interview)

There are other staff in the Public Works Department and Community Services Department

whose work involves active transportation to some degree, but even among those who trust the

scientific evidence, climate change is not always at the forefront. Mark Cohoe argues that this is

because there is only the one position dedicated to active transportation:

I think it's sort of the reality of the situation. Climate change is one aspect of their job;

cycling is one aspect of their job; but realistically, the road has to be fixed….[Climate

change is] not the priority. It really doesn't get counted as a priority.…[E]xcept for Kevin

Nixon…it's never really priority one in their job. (Cohoe 2013, Interview)

The creation of the AT Coordinator position and the associated advisory committee can

be interpreted as a signal of political support for cycling and pedestrian modes of transportation,

but it did not translate directly into support for specific projects or measures. Kevin Nixon's

experience as AT Coordinator suggests that one dedicated active transportation position is

inadequate for addressing the City's needs in this area. However, there has been a positive

243

outcome of this. Not having enough bureaucratic support has prompted Nixon to leverage the expertise and experience of community activists and volunteers. In addition to receiving their input at ATAC meetings, Nixon accesses resources provided by community organizations such as webinars hosted by the Green Action Centre (McKechnie 2013, Interview).

The Active Transportation Advisory Committee has served its original purpose as support for the AT Coordinator. Prior to its establishment in 2007 the City had few resources to cycling and walking facilities. The relatively quick adoption and implementation of cycling infrastructure following the creation of the AT Coordinator position was facilitated by the prior work of the cycling community and the participation of key members of that community on the ATAC. For example, ATAC member Anders Swansson had pioneered a project to map all of the city's cycling routes used by commuters – both those formally designated by the City, and those that commuters used and wanted the City to recognize and protect (Swansson 2013, Interview). ATAC used Swansson's maps as a starting point for their discussions of potential projects to propose for funding and implementation (Swansson 2013, Interview; McKechnie 2013, Interview). More informally, members of the cycling community have volunteered to take on various tasks in support of the AT Coordinator (Nixon 2013, Interview; Cohoe 2013, Interview; Swansson 2013, Interview; McKechnie 2013, Interview), and the ATAC has facilitated these interactions (Nixon 2013, Interview).

In the seven years following the creation of the Active Transportation Coordinator position in 2007, Winnipeg built two separated bicycle lanes: a buffered lane on Pembina Highway and a cycle track on Assiniboine Avenue. Many of the difficulties that were encountered in the creation of these lanes, as well as the aborted attempts to build a lane on Sherbrook Street were the result of electoral pressure from affected businesses. However, the

244

combined efforts of Kevin Nixon and volunteers on the ATAC committee allowed the City to overcome some of these objections. The case of cycling infrastructure in Winnipeg provides evidence of some ways in which political economy factors can limit the impact of climate policy. It also provides limited evidence for the alternative hypothesis regarding policy champions by demonstrating some avenues through which committed individuals overcame some of these barriers by leveraging their position within the bureaucracy and available institutional resources.

5.3.4   Green Building Policy

The last of the four specific climate change politics discussed here is Winnipeg's green building policy. The policy consists of two parts, both of which address only corporate emissions: one sets out requirements for new City-owned buildings, and one provides guidelines for retrofitting existing City-owned facilities. These policies were uncontroversial, narrowly applicable, and utilized resources already in place due to similar provincial policy.[94] Under the policies, all new buildings and renovations over 500m^2 must be certified under one of three third-party green building standards and meet Manitoba Hydro's Power Smart energy conservation performance requirements. Existing buildings over 3000m^2 are subject to a program of "continuous improvement" of energy and water use. Staff are required to report back annually as part of the budget process with recommendations for actions and investments consistent with "benchmarked data" (Regan and Hall 2011).

Green building policy in Winnipeg originated with a motion at an Executive Policy Committee meeting on April 30, 2008 (Winnipeg 2008); however, the project was not

---

[94] Beginning in 2008, all new buildings that received provincial funding (in practice, most of them) were required to meet LEED silver standards. This provincial policy and its implications for Winnipeg's green building policy are discussed in more detail below.

undertaken until the public service was specifically directed to do so in February 2010 (Winnipeg SPCPD 2010a).

Staff reported back to the Standing Policy Committee on Property and Development (SPCPD) on July 6, 2010 (Winnipeg SPCPD 2010b). In addition to background information about green building and third party certification systems, the report included a draft policy in which all new buildings and major additions larger than 500m^2 be built to minimum LEED Silver standards and be formally certified.[95] Additionally, new buildings and additions smaller than 500m^2 would be required to use the LEED Silver standards as a guide for design and construction but need not be formally registered or certified. The draft policy was adopted at the SPCPD meeting (Winnipeg SPCPD 2010b) and without comment or amendment at EPC and Council meetings later that month (Winnipeg City Council 2010a, 2010b; Winnipeg EPC 2010). This policy was adapted to its current form on November 29, 2011, less than a year after it came into effect (Winnipeg SPCPD 2011g). The staff report suggests that the changes would not affect the environmental outcomes of the policy, but would allow objectives to be met at lower cost to builders and the City: "By allowing more than one system, it would facilitate the delivery of a high-performing green building more economically, on average" (Regan and Hall 2011, 4).

While these policies are extremely limited in scope and, in the case of the policy for existing buildings, minimally coercive, I suggest that compared to a lack of formal policy in Brampton, the fact of their existence is an important difference.

---

[95] The Leadership in Energy and Environmental Design (LEED) program is one of the original green building certification systems. In Canada it is administered by the Canada Green Building Council. Owners and developers of new construction, retrofits, and various categories of buildings are each eligible for certification at Bronze, Silver, Gold, or Platinum levels. See the Canada Green Building Council website for more details on the organization and certification system (http://www.cagbc.org/).

Trends in public attention to climate change show that the issue was moderately salient at the time of the initial instruction by Council for the development of a green building policy *and* the subsequent re-iteration of that instruction (see Figure 5.5, below). However, attention dropped off between these two points and declined thereafter.

Figure 5.5 Green Building Policy and Public Attention to Climate Change in Winnipeg
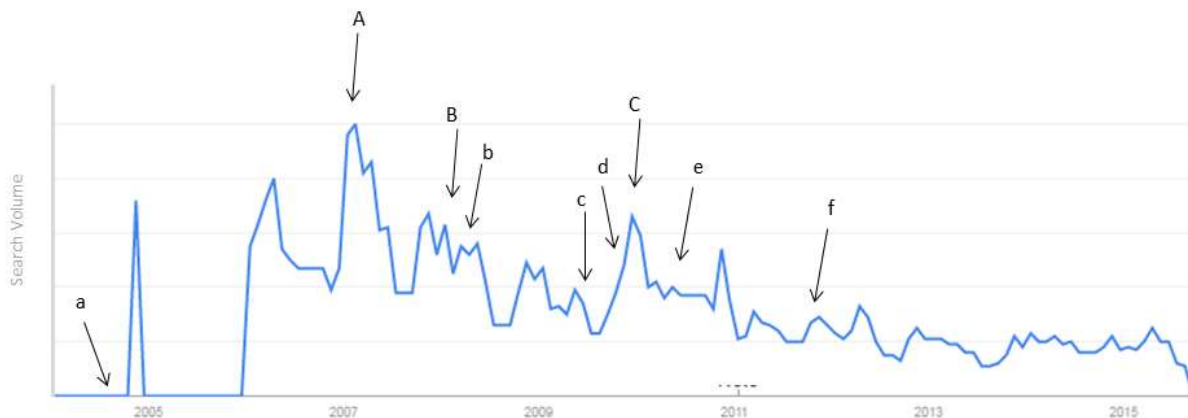
Search terms: "climate change" + "global warming"
Municipal Events: a = Election of Mayor Sam Katz; b = Instruction by Council to create green building policy; c = Adoption of municipal climate change action plan; d = Further specific instruction by Council to create green building policy; e = Adoption of green building policy; f = Amendment of green building policy
Provincial, Federal and International Events: A = Announcement of federal *Turning the Corner* plan; B = Adoption of provincial climate change legislation; C = COP 15
Data source: Google Trends. See Figure 5.1 for methodological notes on this data.

There is no evidence that these policies were shaped by public opinion or either explicit or implicit business influence. In fact, there is no evidence that anyone – citizens, interest groups, economic actors – were aware of the proposals' existence. Minutes of all the meetings at which the green buildings policy was discussed – the Standing Policy Committee on Property and Development, the Executive Policy Committee, and City Council – show that there were no speeches by members of the public on the issue of green building (Winnipeg City Council 2010a, 2011a, 2011b; Winnipeg EPC 2010, 2011a, 2011b; Winnipeg SPCPD 2010a, 2010b). Further, the only mention of the policy in the media is a City of Winnipeg news release from November 2011 celebrating the changes to the original policy on new construction (Winnipeg 2011c). The

only *Winnipeg Free Press* article that approaches criticism was published after the policy came into force and does not mention the municipal policy, focusing exclusively on provincial requirements for LEED certification of new buildings (Kives 2011).

There is significant evidence, on the other hand, that the policy was justified for reasons other than greenhouse gas reductions. Discussions on the issue revolved around potential co-benefits: primarily the likelihood for financial savings in the long-run, coupled with relatively low costs in the short-run. This focus was evident from the very beginning. The first provision of the initial 2008 motion was for the public service to develop a policy that included "demonstration of anticipated savings through the implementation of a life-cycle costing model" (Winnipeg 2008). The 2010 administrative report recommending the adoption of the new building policy likewise emphasized cost savings in noting that "it has been well documented that municipal green buildings can: optimize capital, operating and life cycle costs; reduce long-term infrastructure costs for large-scale projects, protect against volatile energy prices, and increase productivity in the workplace" (Regan 2010, 2).

The June 2010 report also made specific predictions about "the anticipated additional costs associated with the implementation of the policy [which they] estimated to be about 5% of the capital costs of a given project" (Regan 2010, 4). This cost was expected to be offset by their lower operational costs over the course of the building's lifecycle. Moreover, the overall costs associated with the policy would be low, as many new buildings would already be subject to the Manitoba government's 2008 requirement that all projects receiving provincial funding be certified at a minimum of the LEED Silver standard. By the time the policy came into force, several City of Winnipeg projects had already applied for and received LEED certification (Regan 2010, 3). The report further notes that while it is recommended that project managers

receive special LEED training, this would not result in further costs to the City as staff had already been trained in order to implement the provincial requirements (Regan 2010, 5).

Discussions of green building in Winnipeg also emphasized policy and reputational co-benefits. The June 2010 report suggests that the city would benefit from job creation, increased property value for the new buildings, increased productivity of workers, improved health outcomes, ecosystem protection and reduced demand on landfills (Regan 2010, 5). In terms of the City's reputation, the reports and policies for both new construction and existing buildings mention opportunities for environmental leadership by using phrases such as "lead by example" and "demonstrate leadership." For example, the Policy Statement at the beginning of the New buildings policy states that the requirements of the policy are one way of demonstrating that "the City of Winnipeg (the 'City') is committed to leading by example in environmental, economic and social stewardship" (Regan 2010, Appendix 1, 1).

In addition to evidence that political economy considerations – desire for cost savings, in particular – were at the forefront of the decision to adopt green building policy, there is evidence that the adoption of these policies was *not* the result of a push from personally committed politicians. Rather, the councillors who put forward the galvanizing motions for the New Buildings policy – Councillor Swandel in 2008 and Councillor Steeves in 2010 – are not known for their environmental credentials and did not exhibit any personal commitment to municipal action to combat climate change. In fact, as noted above, Steeves spoke out against more ambitious climate change targets in 2009. Councillor Jenny Gerbasi, the only councillor who has demonstrated strong feelings about municipal climate change action, was not a member of the SPCPD or the EPC, and did not comment on the Green Building Policy when it was moved in the Council chamber.

Moreover, transcripts of Council meetings show that councillors were not interested in speaking to this issue. At a Council meeting on July 21, 2010 Councillor Steeves, who was tasked with addressing the July 6, 2010 report of the SPCPD, was distracted and had to be reminded to "move Consent" of all 28 items in the report. All items, including the full and unamended text of the Green Building Policy for New Buildings, were adopted (Winnipeg City Council 2010b). No transcripts are available for SPCPD and EPC meetings, but no objections to the policies were recorded in the minutes of any meeting (Winnipeg City Council 2010a, 2011a, 2011b; Winnipeg EPC 2010, 2011a, 2011b; Winnipeg SPCPD 2010a, 2010b, 2011a, 2011b).

However, there is some evidence that the personal commitment the City's Environmental Coordinator was instrumental in the development of Winnipeg's eventual green building policies. As noted previously, there is no dedicated environmental unit within the Winnipeg bureaucracy, and the Environmental Coordinator (EC) position is housed within the Planning, Property and Development department. Climate change issues form a central part of the EC's responsibilities. Ian Hall, who held this position in the period in question, is a strong believer in municipal climate change action,[96] and was the source of the idea of creating a policy for existing buildings (Hall 2013, Interview). While the initial instruction to think about green building and develop a policy for new construction came from Council, the further instruction to draft the policy for existing buildings was one of the recommendations in the report proposing the policy for new construction (Regan 2010, 6-7).

---

[96] As noted above, Hall is now working as the Director of the Sustainability Office at the University of Manitoba. His dedication to climate change action became clear over the course of my interview with him in February 2013.

5.4   Conclusion

The evidence presented in this chapter, when compared to the empirical predictions of the hypotheses forwarded in this dissertation, supports the claim that political economy factors and the lack of independent environment department limited the adoption of high impact climate policy in Winnipeg. In this section I compare the evidence presented above to the empirical predictions of the hypotheses presented in Chapter 2, and draw conclusions based on process tracing tests. I begin with the theory of political economy factors and independent environment departments. I then consider the implications of the evidence for the alternative hypotheses. The evidence, as well as the results of the process tracing tests, is summarized in Table 5.1, below.

5.4.1   Political Economy Factors and Independent Departments

Winnipeg's climate change policy is minimal, but present – and substantially more impactful than the policy observed in Brampton. However, the policies considered in this chapter are unlikely to result in substantial GHG emissions reductions. The evidence presented in this chapter supports the claim that Winnipeg politicians and staff make decisions based on political economy considerations: primarily concern for good fiscal management, but also responsiveness to the indirect and direct interventions of economic actors and to public opinion. Consistent with the hypotheses, evidence from interviews with politicians and staff, media coverage and administrative reports strongly suggests that across the policy areas examined reducing costs was nearly always central, but promoting economic growth (implicit business influence) and responding to explicit business community demands were often important as well.

The findings of this chapter are not consistent with a hypothesis that climate change policy follows trends in public attention to climate change. Despite higher than average attention to climate change in Manitoba, Winnipeg's climate policy is not markedly more advanced than

that of cities in other provinces. Moreover, the pattern of policy adoption in Winnipeg is more

consistent with changes in leadership than changes in public attention.

The findings in this chapter are also consistent with the hypotheses regarding independent

environment departments. There is minimal climate policy and no independent department with

an environmental mandate. MEAC provides an outlet for environmentally-concerned citizens,

but has minimal authority and no budget. ATAC was more helpful as an inexpensive source of

technical expertise and volunteer hours, but its lack of authority and mandate – and vulnerability

to political whims – meant that it did not have the weight of a formal administrative department.

5.4.2   Alternative Explanations

In addition to being consistent with the central argument of this dissertation, the evidence

from the Winnipeg case also allows me to evaluate some of the alternative explanations

presented in Chapter 2. The evidence from this case is mixed with regard to the role of policy

champions. It weakens the hypothesis regarding the role of membership in inter-local climate

change networks. It also weakens the hypothesis that at-large electoral systems promote climate

change policy because they benefit environmentalist councillors, but strengthens the hypotheses

that at-large electoral systems promote the adoption of policy that is non-geographically

oriented. Finally the evidence is also variously consistent with regard to the hypotheses about the

role of provincial influence.

In specific instances, the support of committed politicians and bureaucrats contributed to

the eventual creation of climate change policy – even if limited in scope. The role of committed

politicians is particularly evident in the case of landfill gas capture, which was initiated by

Mayor Glen Murray, but stalled after he left office and was replaced by a mayor less concerned

with climate change mitigation. Moreover, the personal commitment of Mayor Glen Murray

reportedly led to a political environment in which staff and politicians who prioritized the environment could put forward their ideas and see them acknowledged and promoted by the leadership. As for champions on the administrative side, although there are staff who are personally committed to, and push for, municipal climate change action, their efforts have not led to the adoption of high impact climate policy in any of the policy areas examined.

Winnipeg is a member of the FCM's PCP program, but, as shown above, this was a direct result of the personal commitment of Mayor Glen Murray. Moreover, despite participation in the program, Winnipeg has not completed the steps in the program or met its targets for community emissions reductions. Moreover, when Councillor Jenny Gerbasi raised this issue in Council, it was explicitly decided that the City *should not* seek to fulfil these commitments (Winnipeg City Council 2009). The suggestion of Herb Hajer, former head of the WFMA, that Winnipeg could not be a leader on green fleet policy but could be a second mover, might seem to be evidence in support of the hypothesis that inter-local networks promote climate policy through selective incentives including policy learning and fiscal and technical resources. However, Hajer suggested that the learning would come through participation in professional associations and industry conventions such as the National Association of Fleet Administrators and the Alternative Clean Technology Expo (Hajer 2013, Interview). The City's participation in intergovernmental climate change networks did not play into his calculations.

Moreover, while the City of Winnipeg likely benefited from the templates and other technical assistance provided by the PCP in the development of its initial GHG inventory, it has not used resources specifically available through the PCP for the development of particular climate policies. Additionally, while, the City has benefited greatly from grants from the FCM's GMF program – e.g., for the feasibility studies for the LFG capture program, for the *Our*

253

Winnipeg official plan – these grants did not specifically lead to the adoption of the policy. And, as seen in the case of Brampton, above, these grants are available to all members of the FCM, not exclusively to members of the PCP program.

The evidence presented in this chapter provides some support for the hypothesis that ward systems supress local climate change policy because climate change is not easily amenable neighbourhood-based considerations. Evidence suggests that most Winnipeg councillors, even the environmentalists, are primarily concerned about issues that are geographically tied to their own wards, rather than broader issues such as climate change. For example, one councillor used his discretionary funds to make a donation to an environmental group with a mandate for the conservation of the portion of the Seine River that passes through his ward (City Councillor 2013, Interview). However, the evidence is inconsistent with the hypothesis that ward systems suppress climate change policy because they make it more difficult for environmentalists to be elected. While it may be more difficult for environmentalists to win seats, those that are present (e.g., Jenny Gerbasi) were not active participants in the processes leading to the adoption of existing climate policies. If the election of environmentalists was central to the adoption of climate policy, we should have observed their active participation.

The evidence in this chapter is mixed with regard to the claim that provincial influence is important to municipal decisions to adopt climate change policy. In the area of landfill management, the LFG capture program had stalled, and was only completed because of a new provincial requirement. However, the other policies considered were adopted in the absence of provincial requirements, but with the assistance of non-regulatory incentives. For example, municipal green building rules were facilitated by pre-existing provincial green building regulation, which vastly reduced the administrative costs of the program and the number of

254

additional buildings that would be subject to the new policy. Similarly much of the cycling infrastructure built was funded in part by the provincial government. I suggest that variation among policy areas in terms of the relevant political economy factors (especially in terms of cost) may affect the importance of provincial influence.

The evidence from this chapter also weakens the hypothesis that municipalities are restricted by provincial rules, and that variation in municipal climate policy is the result of the varying leeway provided by provincial governments. Winnipeg was not seeking to implement policy that was not permitted by the provincial government. Provincial influence helped, rather than hindered, climate policy adoption in the municipality.

In the next chapters the focus shifts to two cities with relatively strong climate change policy records: Vancouver, British Columbia and Toronto, Ontario. While neither City can be said to have maximized the potential for municipal climate change policy, each boasts a number of policies that are likely to have an impact on GHG emissions.

Table 5.1 Summary of Process Tracing Evidence (Winnipeg)

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
H1 (Explicit business influence)	Firms and industry associations lobby policymakers about climate policy issues	• Building owners and managers, homebuilders, heavy construction and the Chamber of Commerce all lobby the local government (Former staff member; Chamber of Commerce) • Environment and sustainability not top priorities for Chamber of Commerce (Davidson) • The Chamber of Commerce "take[s] on the neo-conservative ideology that we should just cut all the taxes and then everything will just trickle down" (Councillor) • Local BIZ associations lobby City Hall for local economic revitalization, and progressive municipal policy, including public transit (Councillor) • No business response to request for public comment for LFG project; no business lobby for green building or fleet policy • Businesses actively objected to some bike lane projects because street parking would be removed: "[W]e got into confrontations with the business community in the area" (Staff member)	Easy Hoop	Pass	Strengthened
	Active participation by firms and industry associations in climate policy development	• Chamber of Commerce proposes policy solutions to the problems they face, e.g., "Here's a way we think you can do it that's manageable. Let's do it over a five year timeframe. Let's do it through a threshold process." (Chamber of Commerce) • Chamber of Commerce asked to sit on municipal committees and task forces as representatives of the business community (Chamber of Commerce) • Extensive consultation with area businesses for bicycle lanes (Staff member) • No business participation for fleet, buildings, or landfill policy (but none expected for landfill or fleet)	Easy Hoop	Pass	Strengthened
	Concessions made to economic actors on climate policy	• Two bicycle lanes delayed and watered down due to opposition from businesses; another design changed to maintain street parking for businesses • No concessions for landfill, fleet or building policy	Easy Hoop	Pass	Strengthened
	Climate policy adopted	• Cycling lanes may impose small costs on business	Easy Hoop	Pass	Strengthened

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
	does not impose high costs on locally important economic sectors	• Building policy, fleet policy and landfill do not apply to private sector, so no cost imposition			
H2 (Implicit business influence)	Climate policy adopted not expected to impose high costs on locally important economic sectors	• Cycling lanes may impose small costs on business • Building policy, fleet policy and landfill do not apply to private sector, so no cost imposition	Easy Hoop	Pass	Strengthened
	Policymakers demonstrate concern about effect of climate policy on local business and investment	• All Winnipeg councillors members of local BIZ associations • Winnipeg mayor Sam Katz announces Executive Policy Committee will have "a renewed focus on economic development" • Councillor Gerbasi sees economic growth and environmental protection as compatible goals but says others do not • Politicians opposed cycling lanes because of expected effect on businesses	Easy Hoop	Pass	Strengthened
	Outside observers perceive that policymakers prioritize economic growth	• Municipal and provincial governments see the city as province's economic engine and takes steps to promote growth (Chamber of Commerce) • The economy is the main driver of City policy, at the expense of environmental considerations (Former staff member) • Mayor Katz allowed others to determine the agenda, leading to an environment which eases the burdens on developers and encourages growth in the real estate industry (Former mayoral staffer) • Sheegl (CAO) described as having "open [contempt] of the idea that the City really needs any agenda beyond making development work for developers" (Former mayoral staffer)	Easy Hoop	Pass	Strengthened
H3 (Public attention)	Correspondence between adoption of policy and salience of climate change relative to national levels	• Salience of climate change was higher in Manitoba than in the country overall; Winnipeg adopted a moderate level of climate policy	Straw-in-the-wind	Pass	Strengthened
	Correspondence between timing of peaks in salience of climate change and adoption of climate policy	• Active Transportation Coordinator position and Active Transportation Advisory Committee created at peak in public attention to climate change • Instruction to create green fleet policy occurred during peak	Straw-in-the-wind	Pass	Strengthened

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
		• No correspondence between patterns of public attention to climate change and actions in the areas of cycling, buildings or landfill gas management			
	Correspondence between policy adoption and policymakers' perception that the public is paying attention to the specific policy issue	• Perception that attention to landfill gas low; no action until provincial requirement • Little perceived public attention to green fleet; moderate action • No direct evidence, but impression that policymakers perceived low public attention to green building policy • No direct evidence, but impression that policymakers perceived varying public attention to cycling infrastructure in response to construction of projects	Easy Hoop	Fail	Greatly weakened
H4 (Public Opinion)	In general, policymakers seek out and care about public opinion	• *OurWinnipeg* official planning process highly participatory • Election year made local politicians especially sensitive to public demands relating to bicycle lanes (Staff member) • Public request for comment made for LFG project (including mail-outs to households)	Easy Hoop	Pass	Strengthened
	Positive correlation between level of citizen lobbying in favour of climate policy and adoption of climate policy	• Significant lobbying (and participation on ATAC) by cycling advocates; some major bike lanes constructed • Significant opposition to specific lanes; those lanes delayed or not constructed • No lobbying for green building policy; corporate-only green building policy • No lobbying or response to request for public comment for LFG project; gas capture system built (only flaring) • No lobbying for fleet; limited fleet policy adopted	Easy Hoop	Pass	Strengthened
	Positive correlation between policymakers perceptions of public approval of climate policy and adoption of climate policy	• Policymakers perceive that public is not in favour of bike lanes; a number of separated bike lanes built • Policymakers perceive that the public has no opinion about fleet, landfill gas and green building standards for City buildings; policy adopted in these areas	Easy Hoop	Fail	Greatly weakened
H5 (Minimizing costs to local	In general, policymakers see fiscal responsibility as central to their role in	• The City of Winnipeg does not use the concept of a "triple bottom line" (Former staff member) • For LFG, without a business case "[y]ou can have the best	Easy Hoop	Pass	Strengthened

258

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
government)	government	arguments for the environment and not be able to get funding or support for it" (Staff member) • Restructuring of fleet management agency undertaken in order to reduce costs			
	Climate policy proposals are discussed in the context of their fiscal implications	• LFG project began out of "an interest in whether there was not only a benefit from mitigating the methane, but using it as an energy source" (Staff member) • Green fleet policy aims to achieve "cost neutrality" across departments • On green fleet, "Winnipeg can't afford to be a leader, but I'm looking forward to the future. In three years we'll probably be ready. We can be in the second round" (Staff member) • Motion to develop green building specified inclusion of "demonstration of anticipated savings through the implementation of a life-cycle costing model" • Green building policy amended to meet environmental objectives at lower cost to builders and the City (Staff report). • Staff reports on green buildings emphasize cost implications • No expected cost for staff training due to previous implementation of provincial green building policy	Easy Hoop	Pass	Strengthened
	Climate policy is adopted when it is expected to lead to net savings for the local government	• LFG not pursued when savings appeared unlikely • Green fleet and green building policies expected to lead to cost savings • Cycling projects did not lead to savings, but were largely funded by provincial and federal governments rather than by the City	Easy Hoop	Pass	Strengthened
H6 (Independent environment departments)	Positive correlation between independence of environment department and policy adoption	• No environment department in Winnipeg; some support for Nixon from Active Transportation Advisory Committee; medium level of climate policy	Easy Hoop	Pass	Strengthened
	Where high impact climate policy is adopted, environment departments have provided information and/or resources	• No high impact climate policy adopted; no environment department	Easy Hoop	n/a	n/a

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
	Municipal environment departments are created and sustained from varied sources	• No environment department	Easy Hoop	n/a	n/a
H7 (Policy champions)	There are policy champions are strongly committed to climate change mitigation at the local level	• Mayor Glen Murray (1998-2003) ; Councillor Jenny Gerbasi • Staff: Ian Hall (Environmental Coordinator); Sean Madden (Community Climate Change Coordinator); Kevin Nixon (Active Transportation Coordinator)	Easy Hoop	Pass	Strengthened
	Bureaucratic champions promote climate policy throughout development and adoption	• Hall for green building; Nixon for cycling infrastructure; Williams and Madden for fleet • No bureaucratic champions for LFG	Hard Hoop	Pass	Strengthened
	Political champions promote climate policy throughout the process of its adoption (i.e. in committee and Council meetings)	• Winnipeg Mayor Glen Murray pushed for climate policy but had little support from councillors: "It was like pushing a piece of string up a hill." (Gordon) • Jenny Gerbasi outspoken on climate change in general, but not on specific climate policies considered here • Fleet: councillors focused on hybrid vehicles rather than comprehensive policy to minimize GHG emissions. • Green buildings: councillors proposing action not environmentalist, e.g., Steeves spoke against more stringent GHG reductions targets in 2009 • Inconsistency in terms of plans approved vs policies adopted: "We have a Council that has approved all these progressive things, but, administratively, staff still feel like they [politicians] may have approved these things but they're still not buying into it" (Staff member)	Easy Hoop	Fail	Greatly weakened
H8 (Inter-urban networks)	Positive correlation between participation and climate policy adoption	• Winnipeg has been a member of PCP since 1998, but has not completed all of the milestones • In 2009 Council explicitly rejected motion to meet community emission reduction targets	Easy Hoop	Pass	Strengthened
	Participating municipalities access selective incentives provided by climate	• Winnipeg does not use PCP resources in the development of specific policies • Policy learning for green fleet taking place at meetings of	Easy Hoop	Fail	Greatly weakened

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
	change networks	professional associations, not climate change networks (Staff member)			
	Non-participants do not have access to selective incentives provided by networks	• Winnipeg is a participant in the PCP program and does not access selective incentives from networks of which it is not a member	Easy Hoop	Pass	Strengthened
H9a (At-large systems: more environmentalists)	Cities with at-large electoral systems have more climate policy than cities with ward systems	• Winnipeg has a ward-based electoral system; medium level of climate policy: late-adopted landfill gas capture, medium green fleet policy, medium level of cycling infrastructure, city-owned only green building policy	Easy Hoop	Pass	Strengthened
	At-large electoral systems produce more environmentalist councillors than ward systems	• Winnipeg has no councillors whose primary political issue is the environment, but several progressive candidates who care about the environment (e.g. Gerbasi)	Easy Hoop	Pass	Strengthened
	Environmentalist councillors in both systems are active participants in climate policy adoption	• Winnipeg councillors not actively involved in climate policy – e.g. Gerbasi outspoken on emissions targets, not involved in the other issue areas. • Councillors who were main proponents of green fleet policy were not known as environmentalists.	Easy Hoop	Fail	Greatly weakened
H9b (At-large electoral systems: ethos theory)	Cities with at-large systems have more climate policy than cities with ward-based systems	• Winnipeg has a ward-based electoral system; medium level of climate policy: late-adopted landfill gas capture, medium green fleet policy, medium level of cycling infrastructure, city-owned only green building policy	Easy Hoop	Pass	Strengthened
	In at-large systems councillors prioritize issues that do not have geographically concentrated effects, whereas in ward systems councillors focus on issues that affect their own wards	• Winnipeg councillors primarily concerned about their own wards. Even environmental issues tend to be framed this way, e.g., one councillor used discretionary funds to contribute to an NGO dedicated to conservation of the river in his ward	Easy Hoop	Pass	Strengthened
	Climate change mitigation seen as within municipal jurisdiction in at-large	• In general, emissions reductions seen as within municipal jurisdiction • Former Acting Environmental Coordinator says it is not	Easy Hoop	Pass	Strengthened

261

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
	systems, but not in ward systems	appropriate for the city to have green building policy that applies to community emissions • Cycling infrastructure, landfill management, fleet management, and green building policy for city-owned buildings seen as within jurisdiction			
H10a (Provincial influence: minimum requirements)	Local climate policy meets minimum provincial requirements, but does not exceed them	• Landfill gas capture implemented only when provincially required: "It's required by the provincial government. We have to" (Staff member) • LFG policy does not exceed minimum standards • No minimum provincial requirements for municipal green building policy, green fleet policy or cycling infrastructure	Easy Hoop	Pass	Strengthened
	Municipalities do not adopt climate policy in areas not regulated by the provincial government	• Green building policy, green fleet policy and cycling infrastructure adopted although not required by the provincial government	Easy Hoop	Fail	Greatly weakened
H10b (Provincial influence: restrictive limits)	Municipalities take advantage of subsidies and other non-regulatory incentives to climate policy	• Winnipeg's green building policy buillt on green building policy already adopted by provincial government • Cycling infrastructure funded in part by the provincial government	Easy Hoop	Pass	Strengthened
	Cities are unsuccessful in challenging provincial restrictions on climate policy	• Winnipeg did not challenge provincial government restrictions	Easy Hoop	Fail	Greatly weakened

[a] See Chapter 3, and Table 3.1 in particular, for a full overview of the types of process tests, their difficulty, potential outcomes, and the implications of those outcomes on the hypothesis.

Chapter 6: Vancouver, British Columbia

As discussed in detail in Chapter 2, this dissertation argues that the Canadian cities that are successful in adopting high impact climate policy are those that have been able to overcome the barriers created by political economy factors because of independent environmental departments. In previous chapters I have used process tracing to test the hypotheses in the cases of Brampton, Ontario and Winnipeg, Manitoba. Evidence from those cities has strengthened the claim that political economy factors dampen the adoption of high impact climate change policy and lends credence to the claims about the influence of bureaucratic structures on policy adoption. Because both are negative cases – cities that have adopted little climate change policy – evidence collected in Brampton and Winnipeg is very useful in helping to explain why climate change policy is *not* adopted. However, such cases are less useful for pinpointing why some other cities have been successful in adopting climate change policy.

This chapter re-orients the discussion towards Canadian cities that have adopted a relatively large number of higher impact climate policies. It explores the case of Vancouver, British Columbia, which has implemented a large number of climate policy initiatives, has been at the forefront of climate change mitigation planning,[97] and is perceived by policymakers in other cities to be a climate change policy leader in Canada. As in previous chapters, the methodological approach used here is process tracing. I compare observations from the cases of

---

[97] The City of developed the Clouds of Change report, one of the world's first climate change plans, in 1990 (Moore 1994). This was followed in 2003 by the formation of the Cool Vancouver task force, and the adoption in 2005 of a climate change plan based on their recommendations for specific and ambitious emission reduction targets (Pander 2005). The most recent comprehensive plan is the Greenest City Plan which was released in 2011 (Vancouver 2011a).

climate policy adoption in Vancouver to the empirical predictions of the hypotheses, including alternative explanations, identified in Chapter 2.

The findings of this chapter also support the main argument of the dissertation – that independent environment departments can help municipalities to adopt climate policy in the face of disincentives created by their local political economy context. I find that while political economy disincentives to climate change policy exist in Vancouver, as they do in the other Canadian cities examined in this dissertation, the Sustainability group has been crucial to the advancement of ideas that have facilitated the adoption of local climate change policy.

I also find some support for the alternative hypothesis regarding policy champions. Individuals, both politicians and staff, seem to have played an important role in facilitating climate change policy. Interestingly, this case demonstrates that neither political nor bureaucratic champions are necessary; rather, for some policy areas there were political champions but no bureaucratic champions and for other policy areas it was the reverse. This chapter also presents evidence that weakens one of the more important alternative explanations: that provincial interference is the cause of variation in municipal climate change policy across Canada. As is explored in more detail below, Vancouver's extensive climate change policy is not simply a reflection of the requirements and restrictions of provincial legislation and regulation on this issue, as we would expect if provinces were the source of municipal climate change action.

The remainder of this chapter proceeds as follows. I begin with a brief profile of the City of Vancouver and then I establish that policymakers in the City of Vancouver face political economy disincentives to climate policy adoption as hypothesized in Chapter 2, and that there is an independent environmental department. I also establish that there are individuals in positions of influence within the City administration who are personally committed to municipal climate

change mitigation. I then test the argument that the environmental department facilitates climate

policy adoption against the alternative hypotheses in each of the four specific climate change

policy areas: landfill gas capture programs, cycling infrastructure, fleet management, and green

building standards. I conclude with an overview of the chapter's findings.

6.1   A Profile of the City of Vancouver

First incorporated in 1886, the City of Vancouver is British Columbia's largest city. With

its population of just over 600,000 residents, it is also the urban centre of the Metro Vancouver

regional district, which, beginning in 1967, has coordinated regional services such as water

distribution and sewage collection. The operation and jurisdiction of Metro Vancouver are

determined by the provincial government. With 23 members (21 municipalities, 1 Electoral Area

and 1 Treaty First Nation), the Vancouver metropolitan region is more fragmented than most in

Canada.[98] Moreover, as described in Chapter 3, despite being the largest municipality in the

metropolitan region, the City of Vancouver controls only 22-25% of the votes on any issue at the

regional level. Within its own boundaries, the City of Vancouver's authority is defined by the

Vancouver Charter. This provincial legislation grants the City powers that are not available to

other BC municipalities – including other members of Metro Vancouver – and is generally seen

as more permissive than the legislation governing cities in other provinces.

The City of Vancouver is one of only a few Canadian municipalities in which candidates

for municipal office organize themselves into political parties, also called "civic associations".

---

[98] The upper level municipality, originally the Greater Vancouver Regional District (GVRD), was formally renamed
Metro Vancouver for popular purposes in 2007 (Metro Vancouver n.d.). The constituent members of Metro
Vancouver include 21 municipalities, Electoral Area A (which includes the University of British Columbia) and
Tsawwassen First Nation. These members range in size from under 1,000 residents (Village of Belcarra,
Tsawwassen First Nation) to over 400,000 residents (City of Surrey, City of Vancouver) (Metro Vancouver 2015b).

The tradition began in the 1930s after the Co-operative Commonwealth Federation (CCF) successfully ran candidates in Vancouver municipal elections. To counter this, centrist, right-wing and business interests came together to form the Non-Partisan Association (NPA) in 1937 (Sancton 2011, 177).

All Vancouver city councillors are elected at-large. Instead of representing particular neighbourhoods, councillors are elected by all voters. Voters receive a ballot with the names of all candidates and choose up to ten names (the number of council seats available). This system was established in 1936 after a referendum in which the at-large option received 69% support (although there was only 19% voter turnout). Despite its longevity, the at-large system is controversial. There has been a referendum or other formal attempt to change the system every five to ten years since 1973, but all have failed (Sancton 2011, 187).

Evidence from Vancouver suggests that many political economy factors hypothesized in this dissertation are at play. While climate policy in Vancouver does not follow trends in public attention, Vancouver politicians and staff are concerned about public opinion, as well as economic growth, cost savings, and pressure from major economic actors. Additionally, as hypothesized in Chapter 2, Vancouver has a dedicated Sustainability group with a mandate to promote sustainability measures across the bureaucracy.

In terms of the alternative hypotheses, evidence from Vancouver suggests that there are both politicians and staff who are deeply personally committed to municipal climate change action, and several of these individuals hold positions of influence. Provincial climate change policy certainly affects Vancouver's climate change policy, but it has not dictated its content. Vancouver's climate change actions often exceed the requirements of the British Columbia

government's requirements for municipal governments, and provincial regulation and legislation

are seen by policymakers as neither drivers nor constraints for municipal climate policy.

6.2   Political Economy Factors and Independent Departments

If independent municipal environment departments help to facilitate climate policy action

in the face of disincentives created by political economy factors, evidence from Vancouver

should be consistent with the empirical predictions of the hypotheses presented in Chapter 2.

Evidence regarding political economy factors and independent environment departments in the

City of Vancouver is presented below.

6.2.1   Political Economy Factors

As outlined in Chapter 2, this dissertation examines the influence of five political

economy factors on climate policy adoption: the implicit influence of business, the explicit

influence of business, emphasis on cost savings, public opinion and issue salience. The implicit

influence of business would seem to play an important role in in Vancouver as policymakers are

very concerned about economic growth. However, unlike in other jurisdictions, politicians and

staff do not always see climate change policy as necessarily antithetical to this goal. For

example, Deputy City Manager Sadhu Johnston commented that one reason cities, including

Vancouver, are keen to enact climate policy is that they see it as a "competitive advantage"

(Johnston 2011, Interview). In other words, the City makes economic gains by becoming (and

marketing itself as) more environmentally conscious and proactive on climate change policy.

Mayor Gregor Robertson's championing of a marketing campaign to attract sustainable

business to the city through the *Vancouver Green Capital* project and promotion of green

business opportunities during the 2010 Winter Olympic Games (Vancouver 2009e) is an

example of this type of thinking in action. The language of the 2011 *Greenest City 2020 Action*

Plan is also an indication that the City of Vancouver perceives a positive link between climate change action and economic growth. Instead of simply putting forward strategies to improve the City's environmental policy, the plan projects an image of Vancouver not as a green city, but as a city that seeks to be *most* green by 2020. The opening line of the strategy explicitly links economic growth to climate change policy: "Vancouver has proven that a city can grow and prosper and still become a green capital – a global leader in addressing climate change" (Vancouver 2011a, ii). This statement both acknowledges that others may perceive economic growth and climate change mitigation as mutually exclusive policy goals, and affirms that this is not the position of the City of Vancouver.

In discussing Vancouver's Transportation Plan, Director of Transportation Jerry Dobrovolny emphasizes the importance of economic growth and promoting economic prosperity in the context of a "green" transportation network.

> One of the keys, in the world economic situation now, is we're wanting to position Vancouver not just to survive, but to excel over the next decades. Vancouver would be positioned to be a place where companies want to locate because the brightest and the best from all over the world want to live here. And companies want those employees. (Dobrovolny 2011, Interview).

Councillor Ellen Woodsworth, a representative of the left-wing Coalition of Progressive Electors (COPE), is less sanguine about the burden sharing of Vancouver's environmental and climate policy. She argues that programs like *EcoDensity*, a 2006 policy introduced by right-wing NPA Mayor Sam Sullivan, were designed as gifts to the development and construction industries under the guise of sustainability and climate policy. While the program aims to reduce

GHG emissions by encouraging higher density housing, the result was to pour money into the

pockets of condominium developers (Woodsworth 2011, Interview).[99]

In Chapter 2 it was suggested that Vancouver and Toronto might not see themselves in

economic competition with other municipalities in the same way as Brampton and Winnipeg,

and that this might account for differences in climate policy adoption. The evidence presented

above suggests, instead, that inter-municipal economic competition is, in fact, an important

consideration for Vancouver policymakers. Their pro-climate policy stance seems to be – at least

in part – a strategy employed to achieve economic prominence.

In addition to the implicit influence of business interests, in Chapter 2 I hypothesize that

cities are susceptible to explicit pressure from economic actors who lobby and otherwise

influence municipal policymakers to enact policy that is in line with their interests. In

Vancouver, individual firms in a wide variety of sectors make financial contributions to the

election campaigns of most major candidates for Mayor and City Council.[100] These donations

may lead to in person meetings with politicians. Gordon Price, who served on the Vancouver

City Council from 1986-2002, reported that while making a donation to a candidate's campaign

(either as an individual or a corporation) does not buy votes in Council, it does give donors an

---

[99] As discussed in the in the section on green building policy, below, the EcoDensity policy is variously interpreted. Journalist Frances Bula tells a slightly different story than Woodsworth, arguing that it was simply a reframing of an existing trend toward densification that started in the early 1990s under NPA mayor, and later provincial premier, Gordon Campbell (Bula 2011, Interview). Green building planner David Ramslie argues, in contrast to Woodsworth's account, that EcoDensity simply provided a framework that allowed staff to move forward with a number of different green building initiatives (Ramslie 2015, Interview).

[100] Candidates are required to file Campaign Financing Disclosure Statements, which indicate the names of all donors. Statements from 2005 and 2008 are available online (Vancouver 2005, 2008b), although the names of donors are blacked out in the 2005 documents. These statements show that, for example, in 2008 second place candidate Peter Ladner of the Non-Partisan Association (NPA) received approximately $170,600 from individual firms, and winning candidate Gregor Robertson of Vision Vancouver received about half that amount. Nearly half of the corporate donors to the Ladner campaign were from industries related to property development or hospitality.

advantage in terms of access to politicians. He says that while he was in office he was always made time to meet with donors and consider their positions, and suggests that this is a common practice among elected officials (Price 2011, Interview). Representatives of firms may also lobby senior policymakers without having donated to political campaigns. Former City Manager Judy Rogers notes that in order to prevent undue influence, a senior administrator was always present at meetings between the mayor and lobbyists (Rogers 2011, Interview).

Direct lobbying of politicians is only one way that economic actors may seek to influence policy decisions. During policy development in Vancouver, staff use stakeholder roundtables to engage members of the business community.[101] Participants comment on the policy proposals directly, as well as on input gathered from public consultation activities (Reimer 2011, Interview; Dobrovolny 2011, Interview). Councillor Andrea Reimer and Director of Transportation Jerry Dobrovolny both suggest that stakeholder roundtables are a means of learning about and satisfying industry and business groups' demands (Reimer 2011, Interview; Dobrovolny 2011, Interview). Staff weigh input from various groups and individuals collected during public consultation activities, and Deputy City Manager Sadhu Johnston says that the ideas put forward by groups like the Downtown Vancouver Business Improvement Association (DVBIA) that represent thousands of business members are taken more seriously than a single citizen's email. They still consider all comments received, he says, but because such groups represent many people their input is given more weight (Johnston 2011, Interview).

---

[101] These roundtables also include stakeholders from outside the business community, such as environmental groups and other advocacy groups.

Evidence presented above suggests that staff and politicians at the City of Vancouver not only listen to the views of corporate stakeholders, but also incorporate these views into their decision-making. However, City policymakers might also make policy decisions based on their perceptions of public opinion – enacting climate policy where they see public support, and rejecting climate policy where they perceive such support to be lacking.

Citizens of Vancouver frequently have opportunities to interact with staff and politicians and share their views. This can occur during town-hall meetings or other public consultations. Politicians and senior staff members described these mechanisms as "shortcuts" for understanding broader views within the community – a relatively easy way to aggregate the preferences of the population (Deal 2011, Interview; Dobrovolny 2011, Interview).

While individuals and citizen groups lobby policymakers and intervene in public meetings and consultations, politicians and staff perceive these interventions to be representative of public opinion only to a limited degree. Moreover, climate policy is not always adopted in situations where the balance of citizen lobbying favours it, and rejected in the opposite scenario. Councillor Heather Deal notes that in some cases everyone who speaks on an issue at a public hearing might be against it. While this may be indicative of a significant opposition, and that residents have legitimate concerns, she suggests that the opposition is in "small pockets" and it might not lead to the Council rejecting the policy.

> We certainly pay attention, but sometimes we bring in policy that everybody who came to speak about it was against because it might be something that's close to them and they're concerned about it. But we feel that there is a greater good. (Deal 2011, Interview)

Similarly, Councillor Reimer sees stakeholder consultations as a way of placating opponents to policies and easing the implementation of projects that might not be palatable to segments of the population. It is about asking "people to come together around the things they can come together on….If anyone is excluded from that, you're only creating a more challenging implementation environment" (Reimer 2011, Interview). In other words, there is likely to be agreement on broad principles, but the specifics of implementation cause conflict.

In spite of claims that politicians and staff are not captured by the demands of citizens, some outside observers from the environmental community see the local government's actions as electorally motivated. For example, Margaret Mahan, Executive Director of Vancouver-based NGO Better Environmental Sustainable Transportation (BEST), describes Vancouver's green rhetoric as an electoral tool in which politicians are

> selling a positive image of green. It's not doing something about climate change. Green is being marketed as a brand….It's not about substantive societal change, and certainly not about the kind of change that's necessary to deal with climate change." (Mahan 2011, Interview).

Similarly, Stephanie Goodwin, Greenpeace's Director for British Columbia, argues that the Vancouver municipal government has made strides towards sustainability, but has not gone far enough: "They've achieved what's politically feasible, not what's ecologically necessary" (Adler 2014).

Figure 6.1 Public Attention to Climate Change in British Columbia and Canada
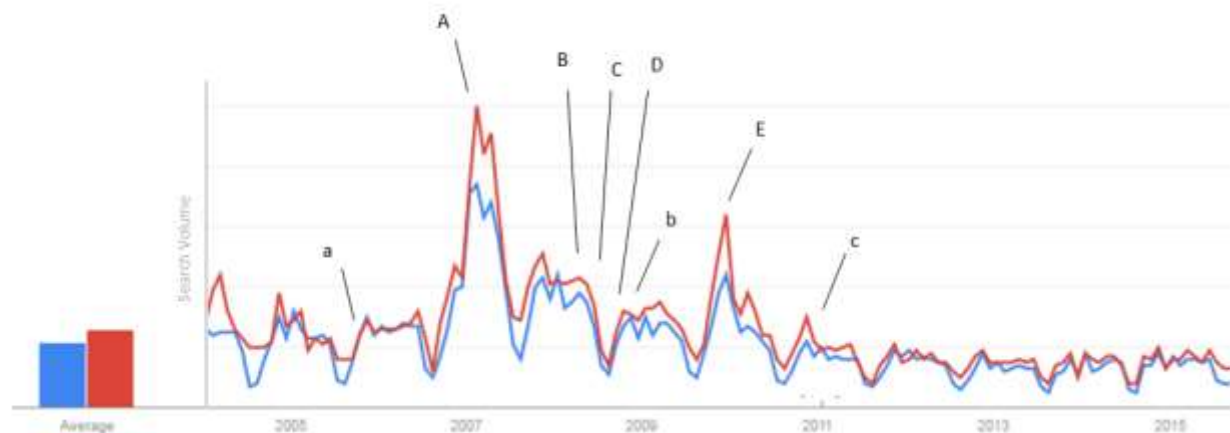
Blue: Canada; **Red:** British Columbia
Search terms: "climate change" + "global warming"
Municipal Events: a = Sam Sullivan takes office as mayor; b = Gregor Robertson takes office as mayor; c = Adoption of *Greenest City Action Plan*
Provincial, Federal and International Events: A = Announcement of federal *Turning the Corner* Plan; B = Announcement of BC's *Climate Action Plan*; C = BC Carbon Tax takes effect; D = Adoption of BC's *Carbon Neutral Government* regulation; E = COP 15
Data source: Google Trends. Google Trends provides normalized and scaled data. The results of each search are plotted "on a scale from 0 to 100 by dividing the total search volume at each point in time by the highest value within that same time frame" (Ripberger 2011). Google Trends data is not available at the municipal level in Canada. However, the program compares regional search volume within the province. In British Columbia, Vancouver has the second highest relative search volume at 66, following Victoria which has the highest relative search volume. The "numbers represent search volume relative to the highest point on the map which is always 100" (Google Trends). This strengthens the validity of measuring issue salience of climate change in Vancouver using British Columbia data.

Another way that public attitudes could influence policy adoption is through trends in attention to the issue of climate change. Evidence suggests, however, that this is not the case in Vancouver. In other words, the City's climate policy is not enacted because politicians seek to gain credit with voters when they think the public is paying attention. Analysis of data from Google Trends suggests that public attention to climate change in British Columbia has little to do with municipal policy decisions, and that major climate change policy decisions at the City of Vancouver do not coincide with or immediately follow peaks in the salience of climate change (see Figure 6.1, above). Instead, attention to climate change seems to follow events and policy at the national and international levels with peaks when the federal government adopted its

273

"Turning the Corner" climate change plan in 2006, and during the COP 15 (Conference of the

Parties to the Kyoto Protocol) meeting in Copenhagen in 2009. Mayor Sam Sullivan's

EcoDensity policy was launched prior to the peak in early 2006, and the *Greenest City Action*

Plan was likewise adopted during a low point in 2011. This trend further supports evidence from

previous chapters that contrary to findings in studies of environmental policy at provincial and

national levels (e.g., Harrison 1996), climate policy in municipalities is not strongly linked to

trends in issue salience.

Taken all together, the above suggests that while Vancouver politicians and staff are

subject to similar political economy pressures as their counterparts in Winnipeg and Brampton,

they do not always perceive these as barriers to the creation of municipal climate change policy.

6.2.2   Independent Environmental Departments

Vancouver has long had staff devoted to sustainability issues. In this section I describe

the creation of the Sustainability group and demonstrate its independence within the Vancouver

administrative structure. I further show that its origins and survival are not the result of the

efforts of a particular policy champion or a particular political economy context. In other words,

any observed relationship between the department and the City's climate policy are unlikely to

be due to spuriousness or an antecedent variable. This section provides a broad overview of the

mechanisms through which the department exerts influence over policy adoption, but the

specifics of their operation are explored in the sections below focused on specific policy issues.

The first staff to deal with sustainability-related issues were tasked with addressing air

quality issues and worked in the City's Health Department (Rogers 2011, Interview). However,

when responsibility for public health was transferred back to the province in 1996, the

sustainability staff moved to the Engineering Department (Vancouver 2009c) until the current

Sustainability group was created in 2002 during the tenure of right-leaning NPA Mayor Philip

Owen (Vancouver City Council 2002). Since then, the group stands outside of the traditional

hierarchy of municipal line departments and instead reports directly to the Deputy City Manager.

The group has been supported by mayors and councillors of all political parties: it was expanded

in terms of staff and mandate in 2005 during the mayoralty of left-leaning COPE representative

Larry Campbell (Vancouver City Council 2005), and continued to flourish under NPA Mayor

Sam Sullivan and Vision Vancouver Mayor Gregor Robertson.

Journalist Frances Bula argues that the profile the Sustainability group has varied over

time within the City administration, but that this is not necessarily due to the environmental

commitments of the mayor or prominent councillors. Moreover, Vision Vancouver, the civic

association (local political party) with an explicit sustainability focus, has not interfered with the

operation of the department itself or actively changed its mandate within the administration.

Rather, by hiring a Deputy City Manager with a reputation for implementing climate change

policy, they have chosen to promote sustainability as an overall priority within the ranks of the

senior administration:

> There always has been kind of sustainability department at the City, but it's had stronger
>
> and less strong staff and leaders over the years. And actually, surprisingly, under Vision,
>
> it hasn't had any more profile than ever before. Instead, where they seem to have made
>
> the difference is that they made the Deputy City Manager the big sustainability guy.
>
> (Bula 2011, Interview)

The Deputy City Manager in question, Sadhu Johnston, similarly argues that having the

group report directly to a senior administrator rather than be embedded within a line department

gives the issue area greater priority and gives the projects more weight (Johnston 2011,

Interview). Because the group reports directly to the Deputy City Manager, it is not subject to the

influence and structure of existing line departments such as Engineering or Planning which gives

the Sustainability group administrative leeway to promote their own goals. Importantly, it also

means that they are not bound by the culture and traditions of these more long-standing

departments, which often downplay environmental concerns within a more traditional and

technical perspective.

While this position within the administration is a great advantage in many respects, it also

has its drawbacks. One disadvantage of a having a Sustainability group that is separate from

other departments in the administration and reports directly to the Deputy City Manager is that

that the group can be seen as having special status, and recommendations and intervention can be

seen as "policy from on high" (Shield 2011, Interview). Although it is not the case, it can be

perceived that the Sustainability group is "like the pet project of the higher levels of

management, and that doesn't sit well with the regular day-to-day civil servants" (Shield 2011,

Interview). While in the long-run Shield hopes that there will not be a need for a Sustainability

group – in that the aims and projects of the group will be fully incorporated into all activities in

all line departments – he argues that it is an important institutional element of the transition to a

fully sustainable administration:

> You can't go from having no sustainability policy to then having a devolved
>
> sustainability policy throughout the organization. It doesn't work…. People don't have
>
> the knowledge, the understanding. They might not even be on board with the idea…. So
>
> initially you have to set up a specialist team, whatever you want to call it, to…provide
>
> that initial cradle of support you need within organizations to prove that things can be

done. And then over time you slowly devolve that and start empowering the people. (Shield 2011, Interview)

The other dimension of the Sustainability group's independence is its significant organizational capacity, including dedicated funding. Much of the group's budget comes from reimbursements of the City's provincial carbon tax payments. However, Malcolm Shield explains that most sustainability projects are not delivered, in the end, by the Sustainability group, and so the money largely comes out of the relevant line department's budget. Sustainability group staff also seek funding for projects from external sources such as provincial and federal governments, non-profit organizations, and private enterprise (Shield 2011, Interview).

Deputy Manager Sadhu Johnston argues that an important reason that the Sustainability group accomplishes its goals because it has "the brain power, the staff, and the time to work on climate policy" (Johnston 2011, Interview). The group has a relatively large staff, having grown from an original two permanent employees to the current fifteen. The responsibilities of the core staff involve developing policy and outreach campaigns aimed at both internal and public audiences. The group also pays the salaries of five "embedded" staff who are integrated into the structure of other departments and report up through their management. For example, Tamsin Mills is the point person in the field of climate change adaptation and is based in the Engineering Department (Crowe 2011, Interview; Mills 2011, Interview). This practice ensures that there are staff members in multiple line departments who are specifically hired to complete sustainability tasks and spread this ethic to others (Shield 2011, Interview).

Ideas of support and relationship-building are central to descriptions of the role of the Sustainability group by their staff, employees in other departments, as well as politicians.

Councillor Andrea Reimer describes the group as "the goalie and the defense" of a soccer team. Just as the defense secures the back of the field to allow the midfielders and strikers to score goals, the Sustainability group provides a background policy framework and support that allow staff in departments across the municipal bureaucracy to incorporate climate change considerations into everything they do as part of their regular duties (Reimer 2011, Interview). Brian Crowe of the Engineering Department says that the Sustainability group is akin to a think tank that deals with all of the big picture climate change goals and policy development (Crowe 2011, Interview). The Engineering Department, he suggests, "provide[s] input for [that] more on the operational and design side for the corporate aspect of those goals...how capable are we of achieving them and what might we do" (Crowe 2011, Interview). Similarly, current Assistant Director of the Sustainability group, Doug Smith characterizes the group not as a "specialized consulting firm" (Smith 2015, Interview). They take on this role because, like Shield, he argues that

> the best changes really have to happen from the inside. You can't push an organization from the outside…We sit down with…[them and] say "You're responsible for it. How can we help out? What do you need from us? Do you need research? Do you need money? Do you need us to run a big project for you? What can we do to help you get to your goals?" (Smith 2015, Interview)

Likewise, David Ramslie describes the role of the Sustainability group as

> just old-fashioned relationship-building, working with [staff in line departments] to…[help them] to be seen as running innovative, well-run business groups within the organization…[and] finding the champions within those groups to make this stuff happen. (Ramslie 2015, Interview)

278

In support of these goals, Sustainability staff argue that they tend to give credit for the success of projects to staff in line departments because this demonstrates to those individuals and departments that sustainability is possible and practical. Furthermore, it encourages those staff to pursue more sustainability projects in the future (Shield 2011, Interview; Smith 2015, Interview; Ramslie 2015, Interview).[102]

Some staff argue that climate change policy at the City of Vancouver has come about not because of the Sustainability group, but because of a "green culture" that is pervasive within the administration and among politicians and has evolved since the early 2000s (Smith 2015, Interview). Since that time priorities have changed. While earlier, the quality of equipment and services were the most important factor in decisions about what policies to adopt, equipment to buy or infrastructure to build, other considerations have since gained prominence.

Quality has always been important, money has been important in the more recent term, and green is just in the short-term – like ten years, which is very short term for a city. It's been pretty high priority from an operations point of view. (Smith 2015, Interview)

Similarly, Brian Crowe notes that some of the senior management in the Engineering Department are actively involved in building a culture of incorporating climate change considerations into all decisions, for both short-term decision making such as event-planning, and long term decision making such as real estate development or sewage system repairs (Crowe 2011, Interview). Tamsin Mills argues that lower-level staff are encouraged to innovate and

---

[102] This approach creates some difficulties from the perspective of trying to determine the effect of the Sustainability group's influence. Theoretically, if they are doing their jobs well, other staff should not see them as affecting policy outcomes. However, if they are not affecting outcomes, this would be observationally similar. In subsequent sections, I will look for specific actions taken by the Sustainability group that indicate their participation and influence in the climate policy decisions of line departments. Here, however, I simply identify the ways in which staff perceive the role of the Sustainability group.

develop their own ideas to propose regarding climate policy, and to seek out champions at higher levels to promote their ideas (Mills 2011, Interview).

It could be argued that this shift in "culture" is the result of a changing political economy context – specifically shifts in public opinion and local attitudes towards the environment. However, Gordon Price, who served as city councillor from 1986-2002, argues that a commitment to the environment is not new in Vancouver. Rather, he argues, Vancouverites have long been deeply connected to nature and the environment. In part due to the City's proximity to spectacular natural environments, Vancouver's residents and politicians see nature in a kind of religious sense. Preserving the environment becomes a moral obligation that applies to all, regardless of political stripe.

> You get into the moral dimension of the issue. You are, in sense, preserving a life force, if you are a part of it, and you respect nature. It's beautiful, it's our legacy. And politically, I believe, that that gets translated into a sense that you have an obligation as a politician, as a leader, to pass on to the next generation this quality of the environment at least as good condition if not better. (Price 2011, Interview)

At this general level of analysis it is difficult to determine observationally whether the sense that sustainability is an important part of all decisions is the result of an pre-existing culture of sustainability or moral obligation to the environment, or if, as argued by Shield and others, that this feeling is the result of the specific and strategic actions of the Sustainability department. Distinguishing between these alternatives is one of the goals of the sections on specific policy areas. Regardless, the above suggests that the creation and survival of the Sustainability group were not caused by the actions of a particular policy champion or a specific political economy context.

6.2.3   Policy Champions

An important alternative explanation of climate policy adoption posited in the dissertation is that variation among cities is the result of variation in the presence of policy champions. As described above, some politicians and staff argue that in Vancouver there is a culture of environmentalism that crosses ideological boundaries. For example, Doug Smith says that Vancouver City Councils "all really have very similar core values….At the core, you've got to be financially responsible, and you've got to be green" (Smith 2015, Interview). If this culture is responsible for the City's climate change policy, this is inconsistent with the hypothesis about policy champions. However, in theory, if local politicians and staff have varying commitments to the environment and climate change mitigation, it is possible that particularly passionate individuals can effect change. For example, even if there is a broad consensus among politicians and staff regarding acceptance of climate change science and broad goals of sustainability, this does not mean that all are completely invested in maximizing sustainability and climate change goals, or see this as a central element of their job. Similar to the diversity of general public opinion observed in public consultation sessions, even if policymakers agree on broad principles such as "environmental protection" or "financial responsibility" they may not have the same relative preferences or agree on the specific solutions to achieve those goals.

In practice, although mayors and city councillors from across all civic organizations have been supportive of climate change policy, not all were active champions. Members of the Non-Partisan Association (NPA), including former city councillors and mayoral candidates Suzanne Anton and Peter Ladner, are known for being environmentalists in their personal lives (Bula 2011, Interview), and former mayor Sam Sullivan sees climate change as an important challenge for governments to face, and densification as a way to address it within the framework

of his market-oriented perspective (Sullivan 2012, Personal Communication). However, the NPA's strongest champion of municipal climate change policy was former Councillor Gordon Price. Price was first elected in 1986 and served six terms before leaving politics in 2002. Price was the driving force behind the *Clouds of Change* task force and report, championed cycling infrastructure including the local bikeway network in the late 1980s and early 1990s, and is responsible for the City's first (though short-lived) separated bike lane on the Burrard Bridge in 1996 (Price 2011, Interview).

Price became interested in climate change and climate change science in 1989, and has believed since that reducing greenhouse gases and mitigating climate change is a moral obligation of all governments, including municipalities. He emphasizes the physical closeness of nature and wilderness to the City of Vancouver and, as quoted above, uses language to evoke the moral, spiritual and political in his descriptions of the relationship of people with nature and the environment, as well as local governments' responsibility to use the tools at their disposal to combat climate change (Price 2011, Interview).

Other city councillors who have been influential in the climate policy area include Vision Vancouver's Andrea Reimer and the Coalition of Progressive Electors' (COPE) David Cadman. Cadman served as Vice President at ICLEI-Local Governments for Sustainability in 2002 and President from 2005-2012.[103] In this position he took on an international advocacy role promoting actions by all local governments to mitigate and adapt to climate change (Cadman 2011, Interview). Reimer was appointed by Robertson to lead the Greenest City Action Team in

---

[103] Founded in 1990, this intergovernmental organization was originally named the International Council for Local Environmental Initiatives, but is now officially called "ICLEI-Local Governments for Sustainability" and is known by its acronym.

developing the *Greenest City 2020 Action Plan* and serves as the main Council liaison on climate change issues. Before becoming a city councillor Reimer was an environmental advocate: she was the CEO of the Wilderness Committee;[104] a Green Party representative on the Vancouver School Board, and was trained to make Al Gore "An Inconvenient Truth" presentations (Reimer 2011, Interview).

It was often repeated by the Vancouver politicians I interviewed that in spite of the long history of individual politicians who care about environmental issues, leadership from the top is most important – and that Mayor Gregor Robertson has been a key figure in that regard. This suggests that despite protestations to the contrary, not all mayors and all councils have been equally dedicated to sustainability and climate change mitigation. First elected in 2008, Robertson formerly owned and operated a local organic food company (Vancouver 2011b). He is seen by his colleagues as a champion of climate change issues, especially the ongoing prominence of climate change as a stand-alone policy, and as the force behind the creation of the *Greenest City 2020 Action Plan* (Reimer 2011, Interview; Deal 2011, Interview).[105] David Cadman, who sat in opposition, argues that Robertson's election was "a cherry on the sundae": the first time the City has had a mayor who is "genuinely green" (Cadman 2011, Interview). As Reimer argues:

> Leadership really really really matters. You could have one councillor, two councillors even ten of us who really wanted to move in this direction, and if the mayor wasn't

---

[104] The Wilderness Committee, formerly the Western Canada Wilderness Committee, is a research and advocacy group championing wilderness and wildlife protection founded in British Columbia in 1980 (www.wildernesscommittee.org)

[105] Interestingly, Robertson does not attend the BC Mayors Climate Leadership Council. Councillor Andrea Reimer attends in his stead (Reimer 2011, Interview). This may be an indication that climate change is not the most important issue on his agenda. Or it could be that he simply does not value intergovernmental meetings.

personally – not just supportive – but actually leading and very strongly doing the politically courageous things and showing up [then things wouldn't happen as easily or as quickly]. (Reimer 2011, Interview)

Likewise, interviews with staff revealed that many had commitments to environmental protection even before coming to work for the city. For example, Brian Crowe, Director of Water, Sewers and District Energy in the City's Engineering Department, studied environmental engineering as an undergraduate student (Crowe 2011, Interview) and Deputy City Manager Sadhu Johnston argues that he was hired for this 2008 *because* of his commitment to climate change action at the municipal level and his experience developing and implementing such policy at the City of Chicago. As he puts it: "Having a senior administrator as a champion is key to whether a climate change policy agenda is successful" (Johnston 2011, Interview).

In general, both politicians and senior administrators reported that there has been significant buy-in from staff throughout the organization in terms of recognizing the significance of climate change and incorporating mitigation and adaptation considerations into the policy process more generally. However, there is a possibility that some of the enthusiasm for climate policy comes not from a deep-rooted faith in climate science, but instead in a dedication to sustainability more generally. For example, former City Manager Judy Rogers says that her commitment to policies to increase transportation options, create green buildings and mixed-use neighbourhoods was quite deliberately not about climate change. Instead it was based on her firm belief in *sustainability* and the need to reduce consumption. In response to direct questions, she very clearly drew a distinction between sustainability and climate change (Rogers 2011, Interview).

The above demonstrates that in Vancouver there have been politicians and staff who are dedicated to sustainability and climate change mitigation at the local level. This is a necessary condition for this alternative hypothesis to hold, but it is not sufficient evidence to confirm it. Evidence regarding if and how these champions exert influence across a range of specific climate policy issues is presented in the sections below.

6.3   Testing the Hypothesis in Specific Policy Areas

In this section I explore the adoption of climate policy in four specific areas: landfill gas capture, fleet management, cycling infrastructure, and green building standards. As discussed in Chapter 2, these policy areas all contribute to the reduction of greenhouse gases by local governments, but vary significantly in terms of the scope of emissions they address and the types of policy instruments used. Importantly, they vary in terms of the way in which they distribute costs and benefits.

6.3.1   Landfill Gas Capture

The Vancouver Landfill was established in the municipality of Delta in 1966. It is owned and operated by the City of Vancouver in spite of the fact that it is located outside the municipality's civic boundaries. Because it operates within the context of a 1999 agreement between the municipalities of Vancouver and Delta which allows for the continuing operation of the landfill for approximately another 40 years, the City of Vancouver can engage in long-term planning for the site. The landfill receives waste from a number of area municipalities including Vancouver, Delta, Richmond, Surrey, and the University of British Columbia Endowment Lands (Henderson et al. 2008, 1-2) and the tipping fees paid by all users include a contribution to the Vancouver Landfill Closure and Post-Closure Liability Fund (Metro Vancouver 2014, 5).

A landfill gas (LFG) capture and flaring program has been in place since 1991 in order to control odours emanating from the site. The original system, now decommissioned, covered 84 hectares of the site, including 190 vertical collection wells (Henderson et al. 2008, 1). The collection system was expanded in 2000 to cover 58 hectares filled after the 1990 project and involved higher volume, better-designed wells, more extensive horizontal piping, replacement flaring infrastructure, and a monitoring and alarm system. When it began operating in February 2001, the system captured approximately 2000 standard cubic feet per minute (scfm) of LFG. As expected, since LFG generation lessens over time, in early 2004 the system captured approximately 1300 scfm of LFG. However, maximum capture is expected when the landfill closes in approximately 2040 because at that point the collection system will cover the entire area of the landfill (Henderson et al. 2008, 1-2).

The City of Vancouver issued a request for proposals (RFP) for beneficial use of LFG in 2001. The winning bid was for a 20-year term including the financing, design, building and operation of electricity co-generation. Beginning in 2003, a private company has operated a "beneficial use" system to pipe captured LFG to an adjacent greenhouse. The LFG is used for heat and the remaining energy is sold as "green power" to BC Hydro, which helps the utility meet its provincially mandated goal to increase reliance on alternative green energy sources. The City of Vancouver receives $400,000 in annual revenue from the project (Henderson et al. 2008, 4-5).

In 2008, the City estimated that GHG reduction from LFG capture and use was equivalent to the emissions of approximately 45,000 cars annually (Henderson et al. 2008, 5). As Paul Henderson notes, emissions from the landfill are more than ten times the City's corporate emissions, and so reducing these are a crucial foundation for action regarding all other City

operations: "If you're not doing a good job on the landfill [anything else you do is] kind of pointless from a GHG perspective" (Henderson 2011, Interview).

In 2010 the City of Vancouver discovered that the LFG collection system had been underperforming and only capturing about 40% of emissions – about 200,000 tCO$_2$e of a total of approximately 500,000 tCO$_2$e (Henderson 2011, Interview). This was controversial, in part because there had been complaints from the Corporation of Delta regarding both odours in the surrounding area and total emissions (Diakiw 2011). Moreover, the Province of British Columbia's Landfill Gas Management Regulation had come into effect in 2009. This regulation required, for the first time, reporting and capture of LFG in most of the province's landfills (British Columbia 2008d).

In response, the City of Vancouver decided to upgrade the LFG system in with an aim of capturing 75% of emissions by the end of 2012 (Henderson 2011, Interview). A 2014 report by Metro Vancouver describes this new project as "one of the largest greenhouse gas (GHG) reduction projects in the Metro Vancouver region" (Metro Vancouver 2014, 5). The $25 million cost of the project was funded through the Vancouver Landfill Closure and Post-Closure Liability Fund (Metro Vancouver 2014, 5). The upgrades were successful in terms of increasing the proportion of LFG captured from the landfill, but they did not achieve the goal of 75% collection by 2012. According to a report to the Delta Council, the collection efficiency increased from 36% in 2011, to 52% in 2012, and 60% in 2013 (Delta 2014, 2).[106] However, a

---

[106] There is some dispute about the numbers used to calculate the percentage of LFG captured at the Vancouver Landfill. There is no accurate means of concretely measuring total emissions, and thus waste management professionals use models to estimate the amount of LFG generated. The Province of British Columbia's *Landfill Gas Generation Assessment Procedure Guidelines* produced as part of the Landfill Gas Management Regulation provides a model for use across the province (Conestoga-Rovers and Associates 2009). According to a report to

Metro Vancouver report dated a few months later suggests that the project was on track to achieve the 75% goal by 2014 (Metro Vancouver 2014, 3).

The decision to undertake upgrades prior to the 2016 deadline set in the Government of British Columbia's Landfill Gas Management Regulation has meant that the project has generated over 160,000 tCO_2e in provincial carbon offset credits which were validated by a third party as per the requirements of the province's *Becoming Carbon Neutral Guidebook* (Metro Vancouver 2014, 5). The City of Vancouver, Metro Vancouver and the Corporation of Delta have agreed to share the allocated credits 57%, 33%, and 10% respectively, in part due to contributions to the Liability Fund and the physical location of the landfill. Metro Vancouver's share will be allocated among the other member municipalities in the Regional District (Metro Vancouver 2014, 3).

There is little to no evidence to suggest that political economy factors were a barrier to the creation and expansion of the Vancouver Landfill's LFG capture, flaring and beneficial use projects. There are certainly indications that the City considered the costs of the projects: for example, the 2001 RFP for beneficial use of the LFG required that the successful bidder provide the financing for the project and take on the risks of building and operations, and the revenue generated by this project is used to offset the operational costs of the LFG capture project itself (Henderson, Underwood, Kyle 2008, 5). Moreover, because the landfill is part of the larger Metro Vancouver solid waste system, the LFG projects are cheaper for the City of Vancouver than they might otherwise be because the fund used to finance the most recent expansion

Delta Council dated April 2014, the City of Vancouver has developed a site-specific model which estimates the total emissions to be less than the provincial model. Thus, the City's estimates of the percentage of gas captured are about nine percentage points higher than estimates made using the official provincial model (Delta 2014).

includes contributions by all municipalities in the region, proportional to the amount of refuse

sent to the site. However, there is no evidence that these were the most important considerations

for any of the decisions made. In fact, cost was a notable omission from the motivating factors

mentioned by Paul Henderson, former Manager of Transfer and Landfill Operations (Henderson

2011, Interview).

Economic growth is not mentioned as an implication in any documentation or comments

by staff or media, and there is no evidence of attention or comment by Vancouver businesses or

residents. Landfill gas capture programs, in general, are of low public salience and tend to be far

from the Vancouver public's eye. While there is evidence of complaints by Delta residents, these

individuals do not vote for City of Vancouver politicians and therefore their attention is unlikely

to have an important effect on Vancouver's policy decisions. Henderson argues that public and

industry input did not impact decision-making in the case of the Vancouver Landfill at any stage.

As in Winnipeg, these potential stakeholders were not active – they were neither in favour, nor

opposed.

This is consistent with the public comments received by the Government of British

Columbia in advance of the Landfill Gas Management Regulation. The consultant report

summarizing public comments on the provincial Landfill Gas Regulation Intentions Paper

describes the input from "over 30 responses," about half of which were from commenters who

"worked for a regional district or municipal government" (C. Rankin and Associates 2008, 2).

Thus only about 15 responses were from people who are not employees of the most directly

affected stakeholders: local governments (C. Rankin and Associates 2008, 2).

There is also little evidence that these decisions were taken at times when climate change

was of high public salience. In fact, the city did not discover that the LFG capture system was

underperforming until well after the major peaks in public attention to climate change (see

Figure 6.2, below).

Figure 6.2 Landfill Gas Capture and Public Attention to Climate Change in Vancouver
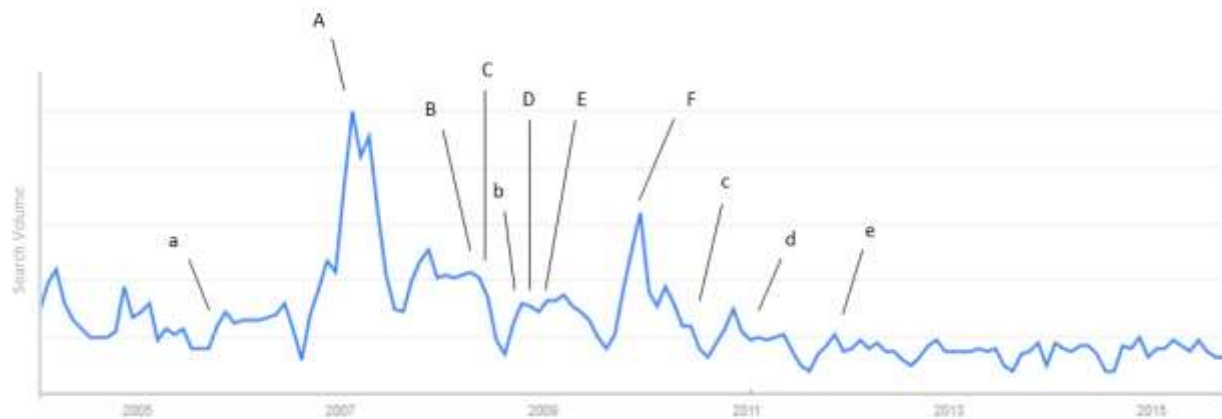
Search terms: "climate change" + "global warming"
Municipal Events: a = Sam Sullivan takes office as mayor; b = Gregor Robertson takes office as mayor; c = City discovers LFG capture system is underperforming; d = *Greenest City Action Plan* adopted; e = Completion of the Vancouver Landfill Gas Capture Optimization project
Provincial, Federal and International Events: : A = Announcement of federal *Turning the Corner* Plan; B = Announcement of BC's *Climate Action Plan*; C = BC Carbon Tax takes effect; D = Adoption of BC's *Carbon Neutral Government* regulation; E = BC's *Landfill Gas Management Regulation* comes into effect; F = COP 15
Data source: Google Trends. See Figure 6.1 for methodological notes on this data.

The above suggests that political economy considerations were not barriers to the City of

Vancouver's LFG policy. Moreover, the City proceeded with the project despite the expense and

despite a general strategic move by Metro Vancouver to vastly reduce the amount of material

sent to landfill in favour of organics diversion and waste-to-energy facilities.[107] In theory, the

shift to organics diversion makes LFG capture and utilization less financially attractive because

the organics in the waste stream are the source of the LFG.[108]

---

[107] There has been significant public protest about the decision to increase reliance on waste-to-energy (incineration). While it would be interesting to explore the factors influencing this decision by the regional municipality, it is outside the scope of this project.
[108] More organics diversion means that there will be less organic material in the landfill, and thus less availability of LFG for capture and sale. From a climate change outcomes perspective, this would seem to be positive as it reduces

The Sustainability group has played a role in the development of the project, primarily in adding the carbon trading dimension to the discussion and helping the Solid Waste group to solidify the business case for the LFG capture program in light of those considerations. The Sustainability group figured out how to maximize the number of offsets generated, hired a consultant to do a third party audit of those potential offsets, and interfaced with the Pacific Carbon Trust to arrange to sell the excess that would not be needed to meet the City's Carbon Neutral Government requirements (Ramslie 2015, Interview). Further evidence of their intervention in the negotiation of carbon credits is the signature of the Director of the Sustainability group on the letters to Metro Vancouver and the Corporation of Delta confirming the agreement to share carbon offset credits accrued as a result of the accelerated schedule (Metro Vancouver 2014, 2015).

David Ramslie argues that Chris Underwood, Manager of Solid Waste Strategy in the Solid Waste Management Department was a key champion of the LFG strategy and that the Sustainability group worked with her to think about how Solid Waste could help the City achieve its corporate GHG emission reduction goals. The Sustainability group would ask her questions such as "How can you be more efficient, save money and achieve civic objectives while doing it?" or "How can you be seen as a leader? How can we make you more innovative?" (Ramslie 2015, Interview).

Another influential bureaucratic figure was Paul Henderson, who was a member of the Solid Waste team from 1989, although he describes himself as a member of the team, rather than

GHG emissions from landfills. However, it may mean that the emissions have been shifted to composting facilities, and municipalities will need to begin to pay attention to different GHG sources.

a policy champion. He is lead author of the Engineering Department's paper on the 2003 expansion of the LFG collection program, and is personally enthusiastic about the project and its potential to reduce overall GHG emissions with the city:

> What we hope is that by 2016 we will be well beyond 75%. But so far our target has just been on advancing that schedule. That's my hope: that we'll re-build the target to be a higher number target. Because still, 75% is 125,000 tonnes per year of GHG emissions, which is still three times our total corporate emissions. (Henderson 2011, Interview)

There is no clear political champion of landfill gas capture. The process of creating and expanding the LFG capture system has taken place over more than twenty years. It began under NPA Mayor Gordon Campbell, was first expanded under COPE Mayor Larry Campbell (no relation), and finally under Vision Vancouver Mayor Gregor Roberston. Robertson and his Council are in favour of aggressive action, but this seems to be a general position resulting from their support for GHG reductions more broadly. In other words, that they care about landfill management, but not in any specific or public way that will be championed by the Mayor or other Councillor. Robertson has been personally involved only to the extent that it has come up in interactions with the mayor of Delta (Surrey Leader 2011), and it is not a main priority of Councillor Heather Deal, who is the Vice-Chair of the Waste Committee at Metro Vancouver (Deal 2011, Interview).

The provincial government has influenced Vancouver's LFG policy insofar as the Carbon Neutral Government mandate creates a market for carbon offsets – without this market the project would generate less revenue (Ramslie 2015, Interview). The gas capture and utilization projects allow the City of Vancouver to generate offsets from both the capture and burning of the methane *and* its further use for other purposes. In practice this means that the City uses the

landfill gas program to offset all other corporate emissions *and* have some left over to sell to the Pacific Carbon Trust, even after the 160,000 tCO$_2$e in credits earned were divided between the City of Vancouver, the Corporation of Delta and Metro Vancouver. While this may have contributed to the accelerated schedule for because revenue is directly related to the total volume of gas collected, but this cannot explain actions taken by the City before the Carbon Neutral Government mandate came into effect in 2008. Moreover, Sean Pander of Vancouver's Sustainability group was personally responsible for negotiating the deal with the provincial government that municipal governments are reimbursed for their carbon tax expenses if they meet their Carbon Neutral Government targets (Ramslie 2015, Interview), further suggesting that the City is not a passive recipient of provincial regulation.[109]

In general, the City of Vancouver complies with provincial regulation regarding LFG monitoring and collection, but they also exceed minimum standards. British Columbia's first regulatory requirement for municipalities to submit solid waste management plans for their landfills was passed in 1992, and required reporting by 1995 (British Columbia 1992). Provincial regulation specifically regarding LFG was developed in 2008, and came into force on January 1, 2009. By this point, the Vancouver Landfill had been collecting LFG for nearly twenty years. Furthermore, the expansion of the LFG capture system and the initiation of the heat and electricity co-generation project occurred between 2000 and 2003, well before the province got involved.

---

[109] This was a particularly important intervention by the City of Vancouver. Prior to this agreement, all British Columbia municipalities were essentially double-taxed as they were subject to *both* the carbon tax *and* the Carbon Neutral Government mandate that required them to buy offsets for their emissions.

Moreover, the Vancouver Landfill Gas Capture Optimization project is not simply a means of meeting provincial standards. The timing of the project (2011-2012) meant that the City began construction at the time the province simply required them to submit a plan. The completion of the project in 2012 made it possible for the City to approach its goal four years prior to the regulated deadline. As Henderson notes: "We're pushing that [the timeline] forward and trying to achieve that 75% collection efficiency by the end of 2012. So we're in advance of what the regulatory requirement is" (Henderson 2011, Interview).

Henderson says that Council pushed the administration to move faster on the project, in part because of its alignment with the *Greenest City 2020 Action Plan*: "[T]hat's what our Council wanted to see: that we were more aggressive than the regulatory minimum" (Henderson 2011, Interview). However, Henderson argues that despite provincial regulation and the alignment of the landfill gas capture program with the *Greenest City 2020 Action Plan*, the real push to accelerate Vancouver Landfill Gas Capture Optimization project came as a result of intergovernmental relations: specifically complaints from the Corporation of Delta, the site of the landfill, as a result of odours and much lower than predicted capture rates.

> [I]t was in response to Delta's concerns earlier this year saying "Look, this is a crisis, what are you doing?"….We originally communicated that "We've got 40% landfill gas collection efficiency, but don't worry, by 2016 we're going to be up to this target." Of course from Delta's perspective, and also from ours, that's a long time when you could take actions in a much shorter time to drive that schedule much earlier.

Overall the evidence suggests that provincial regulation is *not* the most important factor in the decision to vastly expand the landfill gas capture system at the Vancouver Landfill. This is consistent with the hypothesis about the role of the Sustainability group. While

294

intergovernmental relations with the Municipality of Delta were important, the Sustainability group helped to push the LFG project forward by researching and funding research into the generation of carbon offset credits, figuring out how to maximize the City's benefits from the project, and identifying and supporting bureaucratic champions in the Solid Waste department. Provincial influence is evident, especially in the creation of a carbon market, but it seems likely that this project would have moved forward even in the absence of that influence. As expected, political economy factors did not prevent the adoption of the LFG policy.

6.3.2   Fleet Management

Like LFG policy, fleet management tends to be of low public salience because it concerns only internal operations and the decisions are relatively technical in nature. The City of Vancouver has had an official Green Fleet Plan since 2009, but has been involved in activities to reduce fuel and greenhouse gases for much longer. For example, in the early 1990s, the City of Vancouver was an early adopter of electric cars (Smith 2015, Interview).[110] Currently Equipment Services, the group that manages the City fleet, undertakes both traditional and non-traditional projects to green the City fleet (Smith 2015, Interview). Traditional measures include right-sizing or down-sizing vehicles; reducing the number of vehicles in the fleet; driver training; adopting anti-idling technologies; and fuel switching from gasoline to diesel, diesel to natural gas, and natural gas to electric power, depending on the equipment in question. Non-traditional means involve changing the way staff move around and the way services are delivered. For example, the City collaborates with a car-sharing company to allow employees to borrow cars for daytime

---

[110] The City of Vancouver's original three electric cars were repossessed by their manufacturers after the California Air Resources Board relaxed the stringency of its Zero Emission Vehicle program in 1996 (Smith 2015, Interview).

trips, and make the vehicles available for public use on weekends and evenings (City of

Vancouver 2009). Other examples include the Fire Department's use of modified pick-up trucks

to respond to motor vehicle accidents rather than the large fire trucks as this is cheaper and more

efficient, or road crews' practice of leaving City equipment on site rather than returning them to

the works yard every evening, which saves both time and fuel (Smith 2015, Interview).

Green fleet management is also minimally publicized in Vancouver. The only measures

that have any public exposure are the purchase of electric vehicles, the car-sharing arrangement,

and some of the awards won by former Equipment Services manager, Doug Smith. Moreover,

the Green Fleet Plan is not available on the City website. Smith says that "if people want the

information we can share it with them, but…we don't want to overload people. It's not sensitive.

It's just not something we publicize a lot" (Smith 2015, Interview). Perhaps because of this, there

has never been any negative comment from the public on the Green Fleet Plan or green fleet

management practices (Smith 2015, Interview).

There is also little evidence that the timing of the decisions related to the Green Fleet

Plan correspond to patterns in public attention to climate change (see Figure 6.3, below). All of

the decisions and announcements were made during low points in public attention.

Figure 6.3 Green Fleet Policy and Public Attention to Climate Change in Vancouver
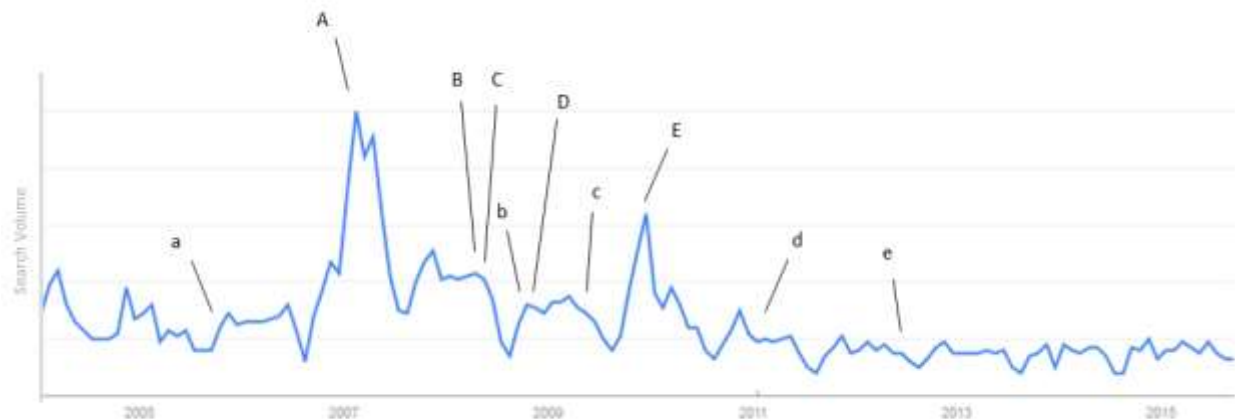
Search terms: "climate change" + "global warming"
Municipal Events: a = Sam Sullivan takes office as mayor; b = Gregor Robertson takes office as mayor; c = Green fleet plan adopted; d = *Greenest City Action Plan* adopted; e = Public announcement that thirteen electric vehicles added to fleet
Provincial, Federal and International Events: : A = Announcement of federal *Turning the Corner* Plan; B = Announcement of BC's *Climate Action Plan*; C = BC Carbon Tax takes effect; D = Adoption of BC's *Carbon Neutral Government* regulation; E = COP 15
Data source: Google Trends. See Figure 6.1 for methodological notes on this data.

The City of Vancouver has made strides to integrate its internal fleet management

practices with a broader strategy of encouraging the use of greener vehicles and more efficient

driving practices in the community at large. This means that the scope of Vancouver's green fleet

policy is larger than that of most cities. For example, the initial charging stations for the fleet's

first electric vehicles in the post-1990s era were provided through collaboration with the

Sustainability group which had a grant to install charging stations in the community for public

use. This collaboration was useful for both parties as it allowed Equipment Services to purchase

a fairly large number of electric vehicles sooner than they would otherwise be able to afford, and

the Sustainability group gained data about the City's capital and operating costs of electric versus

gasoline-powered vehicles that they can use to improve their efforts to encourage electric car use

by citizens. The City's experience has demonstrated that using electric vehicles reduces GHG

emissions, and also that while they are more costly up front, they save money for the operator over their lifespan in terms of fuel and maintenance costs (Smith 2015, Interview).

The Equipment Services department also participated in working groups and roundtables with businesses from the waste collection, trucking and courier industries to discuss best practices and encourage adoption of green fleet technologies outside of the context of the City government. Smith argues that in this context the City acts as just another business seeking to exchange information. The City sees this kind of engagement as positive not only in terms of encouraging sustainability from an environmental perspective, but also in terms of economic growth: "If these businesses become more competitive because they're became greener," says Smith, "that helps the local economy, which ticks another policy box for the City" (Smith 2015, Interview). In these groups, however, the other participants are not necessarily less committed to climate change mitigation actions than the City. For example, there is a street-sweeping company located in the nearby municipality of Surrey that employs a fleet run entirely on biodiesel. Smith says that they can do this as a privately owned business, but the City is unwilling to emulate this practice because the engines are expensive and are only under warrantee to 20% biodiesel. Equipment Services is worried that, in the context of local government, if the engine fails the $100,000 replacement cost would unfairly fall to taxpayers (Smith 2015, Interview).

Smith suggests that this attitude of collaboration and support is a major reason that the City has not received any negative pushback from private economic actors. Another complementary explanation, consistent with the explicit business influence hypothesis, is that the City's fleet policy, as it affects community emissions, is entirely voluntary and thus not coercive. There is thus no reason for economic actors to object. Moreover, even in the context of the corporate fleet, there is little pushback from private actors as there are no grounds for complaint,

298

even from manufacturers of traditional vehicles. The 5-year purchasing contracts that the City

signs with vehicle manufacturers all have "out clauses" that allow the City to purchase vehicles

from other sources if equivalents are not available from the contracted manufacturer. For

example, when the City decided to purchase electric cars, their contracted supplier, Ford, did not

produce any and indicated that they would not have any available for a few years. Thus,

according to terms of the contract, the City was allowed to purchase electric cars from Mitsubishi

until such time as Ford produced an equivalent vehicle. They then put out a separate tender for

electric vehicles which Mitsubishi won (Smith 2015, Interview). This eliminates the grounds for

objections to green fleet policies from traditional vehicle manufacturers because they can still bid

for the contract for gasoline- and diesel-powered vehicles, and they have an equal opportunity to

submit a bid for the supply of electric vehicles.

Taken all together, green fleet practices not only reduce Vancouver's greenhouse gas

emissions, but also save the City about $1 million per year, mostly in fuel and maintenance costs.

The structure of Equipment Services, like most fleet management agencies, encourages cost

savings, and thus, indirectly green fleet management. The group is self-funding in that they do

not receive a budget from the City and have to generate revenue from their clients: the other City

departments, including the Fire and Police services. They charge clients for rental and

maintenance, which covers all of the costs of doing business including capital costs, labour, and

management. This model has two advantages. First, it allows Equipment Services to compare

themselves to other organizations in the private sector to ensure that they are providing a service

that could not be contracted out. Second, it provides an incentive to the client departments to use

their vehicles efficiently and treat them well.

They have to pay for the fuel. They have to pay for the maintenance. They don't want to buy a bigger truck that they don't have to buy….There's a huge incentive for them to do the right thing: not to abuse the vehicles, not to buy something they don't really need. If the vehicle isn't being used, they still pay for it. So they're going to try to make sure their fleet isn't too big. (Smith 2015, Interview)

The Green Fleet Plan itself makes it easier for Equipment Services to justify the package of sustainability measures because although there is an overall cost savings, each individual measure might not save money (Smith 2015, Interview). However, Smith says that even without net cost savings, Equipment Services would still engage in green fleet practices – although it would depend on the magnitude of the extra costs. At a small scale, the fleet manager can make decisions about whether extra costs can balance out reductions in greenhouse gas emissions, but when larger amounts of money are at stake, the City Manager or City Council would make that decision:

When I was the fleet manager, if someone came to me and said "You know, for an extra $10,000 a year out of a budget of $50,000 for these vehicles, we can reduce our greenhouse gases by 80%," I would say "Yeah, I'm going to make that call, I think that's the right thing to do." But if we're talking millions, then that's going to go up to the City Manager, or even go in front of Council, if there's going to be a significant cost. (Smith 2015, Interview)

The foregoing suggests that while environmental outcomes are emphasized, political economy factors, in particular sound financial management and implicit business influence, are at the forefront of decisions about fleet management. Green fleet policies are ideal in this sense because many of the policies that reduce emissions are also associated with financial savings in

300

the long-run. Moreover, especially as pertains to the City's own fleet, the issue is of very low public salience and thus does not attract a lot of attention from voters. However, this low barrier scenario cannot explain why Vancouver has more, and more extensive, green fleet policies than some other cities, and more importantly for the purposes of this chapter, why the City has not *always* had the most up-to-date, most cost efficient green fleet policy.

In the area of fleet management, the evidence seems to support the alternative hypothesis that the influence of particular policy champions has facilitated the adoption of climate change policy. Although the Sustainability group has played a small role, this has been overshadowed by the efforts of individuals: Doug Smith in particular.

Before taking on the job of manager of Equipment Services, Doug Smith was an engineer with strong environmentalist tendencies. For about ten years prior to his role in fleet, Smith worked on bicycle policy and infrastructure at the City. He was convinced by the former manager of Equipment Services to take on this new position, although he says he somewhat concerned about taking on a job focused on motor vehicles. Once he got there, however, he realized: "Wow. There's a lot of low hanging fruit here. There's a lot of good green stuff I can do" (Smith 2015, Interview). This evidence reinforces the claim that Smith is an individual committed to climate change action, but also suggests that Equipment Services had not previously done all it could to maximize both emissions reductions and cost effectiveness.

Smith argues that the Vision Vancouver-led Council has placed a very high priority on green issues and this has been an extremely influential cause of the development of green fleet policy at the City. He says that support from the top is crucial. Equipment Services' mandate would be very different if the Council said to them: "We want you to do everything you can to reduce costs. That's all we care about" (Smith 2015, Interview). Instead, Council cares about

costs, but also about environment, social responsibility, and efficient and effective service delivery. But, as Smith noted at a different point in the interview, even with a mandate to improve sustainability and climate change outcomes, many staff members do not have the expertise to implement effective changes to policy or programs.

Moreover, while Equipment Services has a fair amount of leverage over client departments because of the purchasing rules at the City, namely that all vehicles *must* be purchased through Equipment Services, Smith argues that senior management support is a reason that the group has been so successful in bringing along recalcitrant departments (Smith 2015, Interview). Smith initiated the creation of the Green Fleet Plan not only to consolidate the miscellaneous initiatives that had been in place, but also to generate buy-in within the administration. Once the Corporate Management Team – a group of all of the City's general managers – approves the Plan and its budget, Equipment Services then has authority to make smaller decisions within the context of that plan, and to reference the support of senior management when they encounter pushback from client departments (Smith 2015, Interview).

The Sustainability group encouraged Smith in the development of the Green Fleet Plan, but his personal commitment and embrace of the green agenda meant that the group did not have to do a lot to support him (Smith 2015, Interview; Ramslie 2015, Interview). Moreover, Smith later leveraged his commitment to the environment to join the Sustainability group. The Sustainability group continues to support Equipment Services in their green fleet mandate as most of the staff are not as committed to the issue as Smith had been: "they're specialists in maintaining fleets, they're not experts in green fleet" (Smith 2015, Interview).

The evidence above suggests that Doug Smith's efforts seem to have been central to the adoption of the Green Fleet Plan and the development of many of the individual measures that

302

both preceded it and were included in it. The Sustainability group's influence was less prominent than in other policy areas.

Additionally, evidence from Vancouver weakens the alternative hypothesis that provincial influence is responsible for the City's success. First, Vancouver municipal politicians report that the main role of the provincial government in green fleet activities was as a participant or facilitator of roundtables and working groups that brought together governments and industry representatives on topics such as environmental fleets, electric vehicles, and biofuels (Smith 2015, Interview). The provincial government (and the federal government) also provided subsidies for the purchase of electric cars, but these subsidies are no longer in place. Smith argues that this did not shape the decisions taken by Equipment Services – in the absence of the subsidies they would still have purchased electric cars – but it did accelerate the schedule for the adoption (Smith 2015, Interview). Moreover, the Province's subsidies supported green fleet activities across all municipalities, and thus cannot explain the variation between Vancouver's green fleet activities and those of other British Columbia municipalities. Smith suggests that the interests of the City of Vancouver and other area municipalities are aligned in terms of eventual goals for their fleets, they are "at different places in [their] development" (Smith 2015, Interview). Rather, the evidence presented in this section suggests that the influence of policy champions could explain this variation.

6.3.3   Cycling Infrastructure

Vancouver has an extensive bicycle network, which began with the construction of the Seaside greenway in 1988. This recreational pathway runs along the water in the downtown and surrounding areas. Beginning in 1992 the City designated certain residential streets as "local street bikeways" (Dobrovolny 2010). Cars are still permitted on these streets, but bicycles have

303

the right of way. The routes are arranged in a grid pattern throughout the city. Vancouver's cycling network consists of these local street bikeways, off-street paths, painted bicycle lanes on major streets, painted shared-use lanes, and a small number of separated bicycle lanes on major bridges and arteries (Dobrovolny 2010). Some of the bikeways are designated as "greenways" which are more extensively planned bikeways intended to emulate the seawall pathway with added greenery, public art, and other amenities (Smith 2015, Interview). The system has evolved over time. In 1991 there were fewer than 100 lane-kilometers of bicycle routes, mostly made up of mostly of off-street paths. While there has been very little increase in the off-street path capacity, the number of local street bikeways has increased substantially (Vancouver 2012). Painted lanes were introduced in 1996, and marked shared lanes in 2000, and current separated lanes leading to and from downtown, as well as throughout the downtown area, began with a trial lane on Burrard Bridge in 2009 (Dobrovolny 2010). By 2011, there were about 450 lane-kilometres of bike routes in the City of Vancouver (Vancouver 2012).

Evidence from this case substantiates the claim that politicians and staff in Vancouver faced political economy disincentives to building cycling infrastructure and these either blocked progress or steps were taken to overcome them. As expected, politicians and staff were deeply cognizant of cost as a potential barrier to action. The idea of the bikeway network came from three citizens who approached then-Councillor Gordon Price and proposed to use residential streets parallel to arterial roads as bicycle routes. The argument was that this would allow for a comprehensive cycling network to be created easily and inexpensively. Price loved the idea.

> We hardly had to spend any money. You didn't have to create separate lanes, you just
> used already residential streets with some traffic calming and provide for a way of getting

across arterials….and then you join them all up in a network so that no one is more than

about half a kilometer away from a bike lane. Brilliant! (Price 2011, Interview)

The rest of City Council agreed. Moreover, the ease of planning the routes made it easier to

leverage funds from the provincial government (Price 2011, Interview).

In the context of the 2009 Burrard Bridge trial lane, Deputy City Manager Sadhu

Johnston suggests that cost was *not* a factor as the money came out of funds already allocated for

cycling infrastructure within the Transportation budget (Johnston 2011, Interview). However,

Mayor Gregor Robertson framed it in terms of cost in a July 2009 editorial in order to

consolidate support. Rather than speaking of the cost of the lane reallocation, Robertson framed

the trial as a much cheaper option than widening sidewalks or constructing a dedicated bridge for

pedestrians and cyclists. He closed the editorial as follows:

> So let's give the bike-lane trial a shot, and put the question to rest once and for all. Let's
>
> make the trial a success so that we can avoid spending tens of millions of dollars on
>
> sidewalk widening, while making our city safer for cyclists and pedestrians at the same
>
> time. (Robertson 2009)

In addition to concerns about local government spending, policymakers' focus on

economic growth demonstrates the implicit influence of business. However, unlike in other

cities, policymakers did not see this as a barrier to creating cycling infrastructure. For example,

Director of Transportation Jerry Dobrovolny says that the City decided that

> we were not going to increase the capacity of the road system for cars. We want to have
>
> growth in the system: to see the population grow, jobs grow, trips grow. We want a
>
> strong economy in the city, to be a competitive world leader, but we accommodated that
>
> increase in walking, cycling and transit. (Dobrovolny 2011, Interview)

Some outside the municipal government, for example BEST's Margaret Mahan, are not as convinced that the government is really prioritizing sustainable transportation over economic considerations. She suggests that the focus on environmentalism and climate change within Council and in the administration is not a sign of a real change in attitudes and priorities.

> If you follow the money, you will find that road expenditures still capture over 95% of the City budget, as opposed to sidewalks, bikes, or anything else. Really the balance hasn't fundamentally shifted in terms of where the money is spent. (Mahan 2011, Interview)

Mahan also argues that economic actors have a large influence on cycling infrastructure and sustainable transportation choices at all levels of government. However, she suggests that the cause is not particular lobbying efforts, but the indirect influence of automobile-focused industries on citizen perceptions of their interests: "It's not so much about who votes or who doesn't. The poor voter gets sucked into believing that their interests are the same interests as [those of] the road construction firms" (Mahan 2011, Interview).

This claim is difficult to substantiate directly, but there is evidence of explicit complaints by businesses regarding the separated lanes built in the downtown core. As in Brampton and Winnipeg, the loss of commercial parking spaces was one of the sources of controversy. Anticipating this response, the City did extensive modeling and study to determine how the lanes would affect traffic patterns, parking availability, and how this would affect the businesses. Although some businesses feared that removing parking spaces would be detrimental to them, "it hasn't been an issue – it hasn't had a negative impact on the businesses. People have to find a different place to park, but if they're a good business people will still come to them" (Smith 2015, Interview).

For the most part businesses seem both unaffected and unconcerned by the lane. The Downtown Vancouver Business Association polled its members on two occasions, but "[t]here has been no response to these polls, suggesting [to City staff] that these businesses do not perceive any change" (Dobrovolny 2009, 3). However, "[c]loser to the bridge, two retailers on Hornby Street have seen drive-by traffic reduced in front of their shops. They have requested that a safety-related vehicle right-turn restriction at Pacific and Hornby be removed" (Dobrovolny 2009, 3). In response, staff argue that given the volume of cyclists and vehicle traffic at the intersection, and having reviewed many possible alternatives, "the current arrangement, with vehicle right-turns prohibited, is the safest possible" (Dobrovolny 2009).

This evidence suggests that while staff and Council solicited and were receptive to the positions of economic actors, they did not make concessions to them that would have negatively impacted the achievement of other goals – primarily the promotion of cycling and cyclist and pedestrian safety. This suggests that the explicit demands of economic actors were not the most important determinants of action in the more recent decisions surrounding cycling infrastructure in Vancouver.

In addition to some objections by economic actors, citizens in Vancouver also object to the building of cycling infrastructure. There has been public opposition to separated bike lanes beginning in 1996 and continuing through 2005 and 2009. However, the difference in reaction by the local government – cancellation of a trial lane after just seven days in 1996, the abandonment of a similar proposal in 2005, and then the construction and subsequent *expansion* of the separated lane network a few years later – suggests that this cannot explain decision-making in this area. Something else must be the key causal factor here.

Gordon Price argues that citizens object to bike lanes, particularly those on arterial streets, because they see separated bicycle lanes as personal affronts: "They perceive the 'green agenda' and bike lanes in particular as attacks on their current choices and lifestyle….That's the reason why, I think, that separated bike lanes push people's buttons (Price 2011, Interview). They pay attention to cycling infrastructure because it often involves visible changes to roads and traffic patterns and may demand a shift in thinking to consider bicycles as equally legitimate vehicles as cars on the roadways.

In 1996, public opposition was sufficient to scuttle the trial separated lane on the Burrard Bridge. Siemiatycki et al (2014) argue that heavy, and predominantly negative, media focus created a "narrative of the trial's failure in the face of alternate indications that broader public opinion towards the trial may have been actually more evenly divided than was reported" (Siemiatycki et al. 2014, 12). Journalist Frances Bula who covered the story at the time, says she heard that

> the bureaucracy was not totally on-side. There were accusations internally that whoever set up the experiment, did it in a way that was calculated to generate outrage. And then after [one week] Council folded in the face of public opposition and cancelled it. (Bula 2011, Interview)

A further attempt to create a separated lane on the bridge failed after the 2005 election in which the NPA unseated the incumbent COPE council. NPA Councillor Peter Ladner had initially supported that proposal, but changed his position to align with his party. In an interview with Siemiatycki et al. (2014), he notes that while residents living east of the bridge were not concerned,

west of Burrard it's a pretty big issue because everybody uses the bridge. And people had

the attitude there even more than we have today [of] "Why would you spend a lot of

money to inconvenience car drivers who number in the thousands for the sake of cyclists

who number in the hundreds?" (Ladner in Siemiatycki et al. 2014)

This evidence supports the claim that public opinion – or at least the perception of how public

opinion would influence voters – was influential in the NPA decision to cancel the proposal

following their election.

This dynamic seems to have changed following the 2008 election of Mayor Gregor

Robertson and the Vision Vancouver-dominated Council. In the lead up to the election internal

Vision Vancouver polling suggested that the issue was intensely polarizing among the electorate,

with more in favour than opposed, but also 30% strongly opposed compared to 20% strongly in

favour (Siemiatycki 2014, 40). Despite this potential for controversy, the Mayor and Council

continued in their support and advocacy for the project. This suggests that in this case,

perceptions of public opinion – and specifically the possibility of public backlash – were not

foremost in the decision to implement the separated lane.

The morning the 2009 Burrard Bridge separated bike lane trial began, the *Vancouver Sun*

ran an editorial by Mayor Gregor Robertson promoting and explaining the importance of the

lane. The editorial was critical of past Councils that did not implement such a lane, but it also

emphasized that the administration had learned from the City's previous experience in 1996 and

had made adjustments (Robertson 2009). Robertson emphasized the small size of the project and

anticipated, yet deflected, negative public reactions:

There are 20 lanes of car traffic crossing False Creek. With this trial, we're using one of

those lanes to improve safety for cyclists and pedestrians. We know that the first week is

going to be difficult. There will be delays and people will be frustrated, and there will be

plenty of angry phone calls. But what people forget about the 1996 trial is that traffic-

delay times plummeted by the end of the week. Traffic is like flowing water – it will go

to the path of least resistance. (Robertson 2009)

That the Vision Vancouver-dominated Council embraced this strategy of pursuing policy

goals even in the face of public controversy was confirmed by Councillors Reimer and Deal, and

by Assistant Director of Sustainability and former Greenways Manager Doug Smith (Reimer

2011, Interview; Deal 2011, Interview; Smith 2015, Interview). In the context of separated bike

lanes in and out of the downtown core, Councillor Heather Deal notes that although this was a

clear position on the Vision Vancouver electoral platform in 2008, Council encountered vocal

opposition to its implementation.

We've implemented what we said we would, but we did it quickly and some of the

people downtown were quite upset about that. Certainly people who were angry about it

came out and spoke against it. (Deal 2011, Interview)

Deputy City Manager Sadhu Johnston, in speaking of the decisions made by staff on this issue,

makes a similar argument. He argues that while staff consider all views presented by citizens,

they take their direction from Council.

The question that is posed to the public is "How can we do this [in a way] that is best for

you?" It's not "Should we do this?" Some people come out and all they have to say is

"Bike lanes are bad. Don't do it." We take this feedback, but we continue with our plan

as directed by Council. (Johnston 2011, Interview)

Rather than simply responding to citizens' opinions as expressed through lobbying or at

public meetings, there are indications that politicians and staff at the City often rely on empirical

studies of outcomes and attitudes to inform their decisions. As former Councillor David Cadman argues: "What you measure counts" (Cadman 2011, Interview). The City of Vancouver's studies showed that the City was successful in using improvements in cycling and transit infrastructure to ease congestion downtown: "The carrot of providing options for people has resulted in less cars. I'm not aware of any other city that has that kind of reduction in cars, but an increase in trips" (Dobrovolny 2011, Interview). This position is supported by the 2009 "mid-trial" study done by a private polling firm which found increases in cycling and pedestrian use of the Burrard Bridge and that "[a]ll demographic segments, including single occupant drivers, tend to support the current lane reallocation" (Mustel Group 2009, 5).[111]

In addition to patterns of direct public support, fluctuations in the salience of climate change may also affect the creation of cycling infrastructure. For the most part, in the 1990-2011 period the environment and climate change have not been the most important issues to Canadians, nor are they the focus of their attention. The periods in which there have been significant peaks in Canadians' attention to the environment were in 1990 and 2007 when the environment was more often cited than the economy or healthcare as the most important issue facing Canadians (Harrison 2012). Google Trends provides more specific data about attention to climate change in particular. In the 2004-2014 period in British Columbia, peaks in public attention to climate change occurred in 2007 and 2010 (see Figure 6.4, below).

Likewise, although separated bike lanes were a controversial topic, as discussed below, the public salience of climate change does not seem to have been an influential factor in the considerations of Vancouver policymakers. As shown in Figure 6.4, below, decisions to create

---

[111] More specifically, what is meant here is that at least a plurality of each group supports the re-allocation.

cycling infrastructure and decisions *not* to create infrastructure were all taken at times of low

public attention to climate change.

Figure 6.4 Cycling Infrastructure and Public Attention to Climate Change in Vancouver
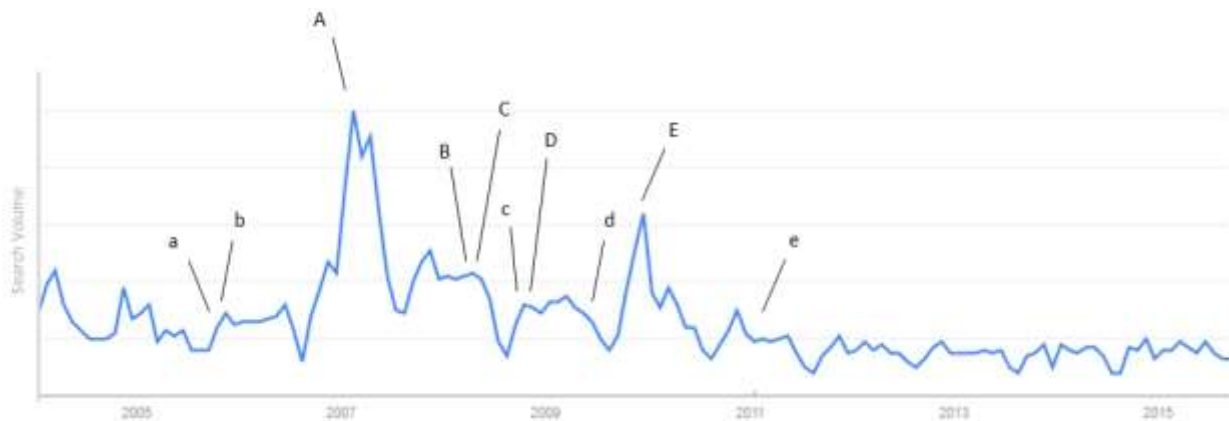
Search terms: "climate change" + "global warming"
Municipal Events: a = Sam Sullivan takes office as mayor; b = Council votes to cancel a proposed trial separated bike lane on Burrard Bridge; c = Gregor Robertson takes office as mayor; d = Burrard bridge separated bike lane opens; e = *Greenest City Action Plan* adopted
Provincial, Federal and International Events: : A = Announcement of federal *Turning the Corner* Plan; B = Announcement of BC's *Climate Action Plan*; C = BC Carbon Tax takes effect; D = Adoption of BC's *Carbon Neutral Government* regulation; E = COP 15
Data source: Google Trends. See Figure 6.1 for methodological notes on this data.

Some of the development of cycling infrastructure occurred during these peaks in public

attention. The construction of the initial bikeways began in 1990, at an early peak in public

attention to the environment. However, the development of the network continued afterward.

Similarly, the timing of the first trial separated bike lane on the Burrard Bridge in 1996 does not

correspond with public attention, nor does that of the proposed lane in 2005. In contrast, the

successful attempt to create a trial separated lane on the same bridge in 2009 *does* correspond

with heightened public attention to climate change and the environment more generally.

However, this lane was made permanent and others added after the peak in public attention had

passed.

The above suggests that in decisions to provide cycling infrastructure the City of Vancouver has faced many of the hypothesized political economy constraints. However, these constraints have not blocked policy adoption. This may be due to the influence of the Sustainability group. In the past the Transportation Department did not support bicycle infrastructure on city streets. In fact, as Doug Smith reports, the greenways project was based out of the Streets department because the engineers in Transportation were skeptical of the idea:

> Back then Transportation was really focused on the nuts and bolts of getting cars around. Bikes weren't really a huge priority. And greenways – the whole idea of greenways was supposed to be innovative, and novel, and thinking outside the box, but for some people who were worried about liability, it [was] a big fear.[112] (Smith 2015, Interview)

However, things have changed, and the Transportation department is now heavily invested in building cycling infrastructure. The Sustainability group has played an important, though background, role in the development of cycling infrastructure in Vancouver. Smith argues that, as for all of the groups that they work with, the Sustainability group supports staff in the Transportation to build bicycle infrastructure by "providing that specialty subject matter expertise or adding just a little more horsepower to get their projects over that hump so they can keep moving forward" (Smith 2015, Interview). The Transportation department does not require a lot of pushing from Sustainability, but they do ask for and get help in funding or staffing projects that exceed their own capacity. For example, Sustainability did a lot of work on a project to promote and enable active transportation in general. They provided a project manager who did

---

[112] This idea of the City's liability in the context of cycling infrastructure echoes the concern of Brampton councillor Bob Callahan (see Chapter 4).

research and wrote a report with recommendations about how the Transportation department could better promote cycling and walking (Smith 2015, Interview).

There is also some evidence above to support the hypothesis that political champions have been important to the development of cycling infrastructure. Former Councillor Gordon Price and Mayor Gregor Robertson seem to have been most influential. For example, in addition to pushing for the implementation of his campaign promises regarding cycling infrastructure (Deal 2011, Interview), Robertson made public interventions to associate himself personally with this project.

However, the case of bicycle lane infrastructure in Vancouver does not support a hypothesis that provincial influence is the main driver of cycling policy. Provincial regulation and legislation gives cities jurisdiction over roads and the road network, with the exception of provincial highways. In Vancouver, however, this is a constraint on the degree to which Vancouver can build bike lanes, as many of the city's arterial roads are classified as provincial highways (Mahan 2011, Interview). Moreover, while there is no provincial requirement to have bike lanes, particularly not separated bike lanes, it is encouraged. To support the promotion of cycling by local governments across the province, the government established a cost-sharing program. The program website states that the purpose is "[t]o encourage healthy living and to help address climate change [by] cost-sharing cycling infrastructure projects with local government" (British Columbia n.d.).

It could also be that either policy freedom granted by the provincial government or encouragement to build bicycle infrastructure was the cause of Vancouver's extensive cycling network. If so, we should see similar levels of infrastructure across the province. In fact, this is not the case. Neither Victoria, nor surrounding Metro Vancouver municipalities have this level

of infrastructure. Ken Cameron, former urban planner at the Metro Vancouver describes the

difference between Vancouver and the rest of the region:

> There's a map that shows where it shows where it is feasible to bicycle in Metro
>
> Vancouver… [where there is] easy, safe, bicycle travel. This part of the region,
>
> Vancouver, is dark with accessibility. The rest of the region is white space. (Cameron
>
> 2011, Interview)

Moreover, the City of Vancouver is not a passive recipient of the dictates of the

provincial government. Although they have received provincial funding to support the

construction of cycling infrastructure, particularly in the case of the bikeway network (Price

2011, Interview), they have overcome the constraints regarding the arterial roads by building

both bikeways and separated lanes on less busy streets parallel to the arterials. They are not just

passive recipients of provincial constraints: they find ways to get around them.

6.3.4 Green Buildings

The City of Vancouver's green building policy consists of three main pieces: all new

City-owned buildings over 500m^2 must be certified as LEED Gold; construction on rezoned land

must to be built to LEED Gold standards, but the buildings are not required to be formally

certified; and a series of smaller initiatives including green building standards for renovations to

single-family homes, allowing the construction of "laneway" and "carriage" houses throughout

the city,[113] and a program to employ at-risk youth to "deconstruct" homes.[114] These policies vary

---

[113] Laneway houses are smaller, secondary rental homes built on properties that are zoned for one- or two-family homes. Carriage houses are similar, but are built on larger properties that can be subdivided for sale.
[114] Deconstruction is similar to demolition, but it is done carefully and by hand, thus allowing for a larger proportion citizof the materials to be reused or recycled.

in terms of their scope and coerciveness, but with only a few exceptions extend well beyond City operations and require action private individuals and firms.

There were two main moments of green building policy adoption in Vancouver. The initial requirements for City-owned buildings, as well as recommendations for voluntary consideration of green building standards for private development, were adopted in July 2004. The more coercive standards for private development, as well as many of the smaller programs, were developed under the umbrella of the EcoDensity strategy announced in 2007.

The idea of employing green building practices in Vancouver emerged during the visioning phases of the development of the South East False Creek (SEFC) project in the early 2000s. SEFC is a large formerly industrial area owned by the City that was slated for redevelopment. One section of the property was developed as the Athletes' Village for the 2010 Olympic Games. The City undertook an in-depth public consultation process to shape the outcomes of the project, with an eye to creating an innovative, progressive and sustainable new neighbourhood. Over the course of three years, staff learned about green building practices, commissioned a study to opportunities for green building for the SEFC site, and developed an initial green building strategy.

As part of this process, one of the project planners, Dale Mikkelsen, became one of the first certified LEED professionals in Vancouver and was given the job of Green Building Planner, becoming the point person for the City's thinking about green building before the establishment of the Sustainability group. Mikkelsen argues that holding these positions concurrently allowed him to more easily overlay issues of climate change and environmental sustainability with the SEFC project, which was already intended to be a socially sustainable development (Mikkelsen 2011, Interview).

316

As the SEFC project progressed, the planning team and stakeholder groups started to look beyond broad visioning to specific discussions of how it would actually be built. This meant, according to Mikkelsen, that they carefully considered various green building options. In 2004, Mikkelsen recommended a green building policy to Council: municipal buildings over 500m^2 should be certified as LEED Silver, and LEED standards without formal certification should be considered for all new re-zoning projects in SEFC (Mikkelsen and Smith 2004, 1).

Although there was some disagreement among Councillors at the July 2004 meeting, after consideration Council not only agreed with the recommendations, but *increased* the requirements.[115] City-owned buildings would have to meet LEED Gold standards, and all SEFC developments would have to look to have LEED Silver as a minimum design standard, "with the intent to move toward achieving LEED Gold as a goal" without formal certification, and Council added an instruction for staff to investigate the potential to encourage green building practices for private development applications outside of the SEFC area (Vancouver City Council 2004). David Ramslie, the Sustainable Development Program Manager from 2007-2011, argues that Council decided on LEED Gold rather than Silver for City-owned buildings because they wanted to exceed the LEED Silver requirements that had just been announced by the City of Calgary (Ramslie 2015, Interview).

---

[115] Councillor Fred Bass in particular seemed to object to the proposal. Transcripts of the proceedings are not available. However, the minutes note that Councillor Bass's questions were initially ruled out of order, but after appeal the chair's ruling was overruled due to a tie vote. Councillor Bass later added a motion, which was supported by his colleagues, "[that] staff report back on medium and long-term implications for economic development within the City of Vancouver and the Greater Vancouver region of green building development" (Vancouver City Council 2004). Within the context of the meeting minutes, this motion suggests that Bass was skeptical of the application of green building practices to the private sector.

This decision gave those working on the SEFC a firm mandate to explore green building, leading to a gradual escalation of green building goals for the project. Starting with the Council resolution, they began to think about further enhancements:

We took what was originally just this fledgling "all buildings should be LEED Gold" to there should be a pilot building that should be LEED Platinum, all the other buildings should be LEED Gold, and all buildings regardless of what they were should be 30% more energy efficient. (Mikkelsen 2011, Interview)

Then, having thought about the demand side of energy consumption, they began to consider options to reduce carbon emissions on the supply side. The solution they landed on was neighbourhood energy (Mikkelsen 2011, Interview). In its final form, the SEFC neighbourhood energy utility (NEU) provides electricity to much of the development through heat recovery from the sewage system (Vancouver 2015).

At about the same time, planners including David Ramslie were working with re-zoning applications for large developments in other parts of the city and thinking about how they could encourage builders to incorporate green building practices into the projects. Because there was no formal requirement for private developments, negotiations with developers about green building were informal and *ad hoc*. However, they formed the basis of the later requirements for private developments that require re-zonings to reach LEED Gold equivalency standards. The Green Building Strategy (Vancouver 2004) provided a baseline of areas where requirements needed to be adjusted in order to facilitate and allow private developments to meet the LEED equivalency standards (Ramslie 2015, Interview).

In 2007 the final decisions for SEFC were made, ensuring that green building standards would be met and an NEU constructed. A few months prior to that, in June 2006, Mayor Sam

Sullivan announced the EcoDensity strategy. This strategy, according to journalist Frances Bula, put an environmental spin on residential densification that was already happening in the City (Bula 2011, Interview). Sullivan's strategy was not particularly detailed: he believed that the city's carbon footprint was too large, and that increased density would make reducing it affordable (Ramslie 2015, Interview). "Sam didn't care how the density would be achieved. He just thought there should be more density" (Bula 2011, Interview).

This broad framework gave staff significant leeway to develop green building strategies to apply to the private sector. Staff developed formal green building requirements for re-zoning projects: the Large Site Re-Zoning policy sites over two acres that applies green building standards over the whole development *in addition* to the regular re-zoning policy for individual buildings (Ramslie 2015, Interview). This policy includes a requirement for developers to complete a neighbourhood energy feasibility study for the site and at minimum ensure that all buildings could be connected to an NEU in the future (Crowe 2011, Interview). This framework also was the starting point for the policy to require green building features to be included in renovations of single-family homes, and more broadly provided "a shopping list [for] removing barriers to green buildings…in the zoning and development by-law" (Ramslie 2015, Interview).

The continuing adoption and strengthening of green building policy in Vancouver is not an indication that politicians and staff faced no political economy disincentives. In fact, they faced explicit opposition from the development industry, and were concerned about the impact of green building on costs, economic growth, and public support. While developers did not object to the idea of densification (Bula 2011, Interview), Dale Mikkelsen argues that if it was up to the developers there would be no green building policy, as they will almost always prefer to build as they always have since "it's cheaper, it's faster, it's easier" (Mikkelsen 2011, Interview).

319

However, although there are some "really hard core right-wing developer groups…[who will say] 'if you have green buildings I'm never building in Vancouver again,'" there are also those that can be persuaded as long as they are consulted and convinced that there is a market for the product and the potential for relatively low additional costs (Mikkelsen 2011, Interview).

Similarly, David Ramslie describes the relationship he had with the Urban Development Institute, the main development industry lobby group in Vancouver, as "rocky" (Ramslie 2015, Interview), particularly in the context of mandating LEED Gold standards for all new re-zoning projects. The developers were worried about increased costs as well as increased uncertainty – about green building in general and about potential escalation of the City's requirements.

> They wanted to know, once it got done, where is this going? They would cite affordability: "Are we making buildings more complex than we need to?" I don't necessarily blame them for it, but you get an industry association together, and that industry association is regulated, they don't want more regulation. Nobody wants to be regulated more. Nobody puts their hand up and says "Give me more rules." (Ramslie 2015, Interview)

This opposition stands in contrast to previous findings that some industry associations and individual developers are in favour of green building practices as they can provide reputational and other benefits (e.g., May and Koski 2007). However, May and Koski (2007) investigate green building policy that is mandatory only for the City's own buildings. As demonstrated in the discussion of the City of Toronto in Chapter 7, below, even developers who specialize in green building are not necessarily in favour of mandatory regulation of the private sector. Both the evidence here and May and Koski's (2007) findings are consistent with the

320

hypothesis posited here: the more a policy is expected to affect the behaviour of economic actors, the more they will oppose it.

The City of Vancouver took multiple steps to overcome developer opposition. In the context of the SEFC development, the South East False Creek Stewardship group included representatives of several industries, including architects and developers. These representatives consulted with their constituents and the planning team was responsive to their concerns, especially where the specific technicalities of green building were concerned. For example, when the representative of the Architectural Institute of British Columbia (AIBC) went back and reported on the proceedings of the Stewardship group, the AIBC was nominally supportive, but asked the City to consult with them more directly. These were opportunities for the AIBC to "teach [the City] what was practical from a policy perspective" (Mikkelsen 2011, Interview). Mikkelsen argues that consulting with such stakeholders is necessary, not only to generate buy-in, but also because they are the experts.

> They have an expertise that shouldn't be disregarded. The development community builds the buildings that you and I live in. You and I couldn't just show up on a piece of raw land and build a high-density, high rise condominium. Why shouldn't we listen to them? You can't give me advice about how to build a high rise condo. You can say the things you'd like to see in it, but you can't tell me how to build it. (Mikkelsen 2011, Interview)

Another way that the City mitigated the potential costs of the requirements for developers was by including it as part of the Community Amenity Contributions negotiated by the planning department on a case-by-case basis. Since the 1970s in Vancouver the Planning Department has negotiated with developers in the context of re-zoning applications. In exchange for relaxed

321

restrictions on height and floor space, developers provide cash or in kind contributions of community amenities such as parks, community centres, and public art. As Sustainable Development Program Manager, David Ramslie brokered a deal with then Chief Planner Brent Toderian that "the cost premiums of going to LEED Gold" would count as part of developers' potential contributions in those negotiations (Ramslie 2015, Interview). This made meeting green building standards much more financially attractive to the development industry.

There were also some concerns within the City about the impact of about the effect of green building policy on developers' business decisions. Ramslie reports that some were concerned about the pace of policy change:

> We had some discussions [where it was said] "This is okay. Keep going at the rate you're going at, but we have to be sure that we're not driving development out of Vancouver." There were some discussions about that, but I don't think that we ever crossed the line to say that this was going to actually [have a negative] impact. (Ramslie 2015, Interview)

These discussions were one reason that Ramslie did a lot of modelling of the likely costs of meeting green building standards and getting buildings certified by LEED. His analysis showed that the additional costs of certifying a building in the LEED system

> would start at between 5-7% and come down quite quickly. So we would suggest today that a LEED Gold building doesn't cost any more, or even a LEED Platinum building doesn't cost any more, than a regular building. (Ramslie 2015, Interview)

Likewise, for the regulations surrounding renovations to one- and two-family homes, he "hired quantity surveyors [and other consultants] to show that the costing impact would be less than 2% of construction costs" which was acceptable because it was commensurate with inflation levels (Ramslie 2015, Interview).

This was also a good response to councillors who were worried about voter and industry opposition to the policy. By showing that the cost of green building was much less than the inflation of the property market, Ramslie and his colleagues

> could show that it wasn't the green building stuff that was going to a) make stuff unaffordable, because it's mostly residents that vote in Councils, and b) it wasn't going to radically change the economics of buildings….We weren't just gunslingers trying to do as much as we could. We did our homework. (Ramslie 2015, Interview)

Both politicians and citizens in Vancouver have tended to agree broadly about sustainability and density goals (Bula 2011, Interview). However, despite this congruence at the conceptual level, there is much more disagreement when it comes to specific decisions. For example, councillors from different parties came together to support the broad principles of the SEFC development, but disagreed vehemently about the conditions of the eventual sale of the property to developers (Mikkelsen 2011, Interview). Similarly, although citizens generally agree that the city should be "green", there has been significant pushback against new density and sustainability projects once they are formally specified for individual neighbourhoods. However, while in the past the City has backed off of its demands in the face of citizen opposition,[116] in the case of green building requirements for the private sector, Ramslie's efforts went a ways towards convincing councillors that green building would not negatively affect their voters.

---

[116] This was particularly apparent in the mostly failed implementation of CityPlan in the 1990s. CityPlan was very highly regarded as an official plan that called for significant densification across the city, involved significant public input and consultation, and was very broadly supported by the citizenry. However, after its adoption the City encountered high levels of opposition from neighbourhood associations and individuals who objected to its implementation in their own neighbourhood, and the City "accepted neighbourhoods that rejected everything but the most gentle form of densification" and did not implement the Plan (Bula 2011, Interview).

Green building policy can be of varying public salience, depending on the type of measures enacted. For example, densification initiatives, such as the construction of condominium towers, or replacing single-family homes with multi-family dwellings tend to be of relatively high salience because they visibly affect the built form of neighbourhoods. Other measures that are more focused on construction practices and materials, design features or certification requirements are less visible and more technical, and thus tend to be of lower salience. This low salience is even more pronounced when the measures apply exclusively to City-owned buildings. This was largely the experience of Vancouver.

Figure 6.5 Green Building Policy and Public Attention to Climate Change in Vancouver
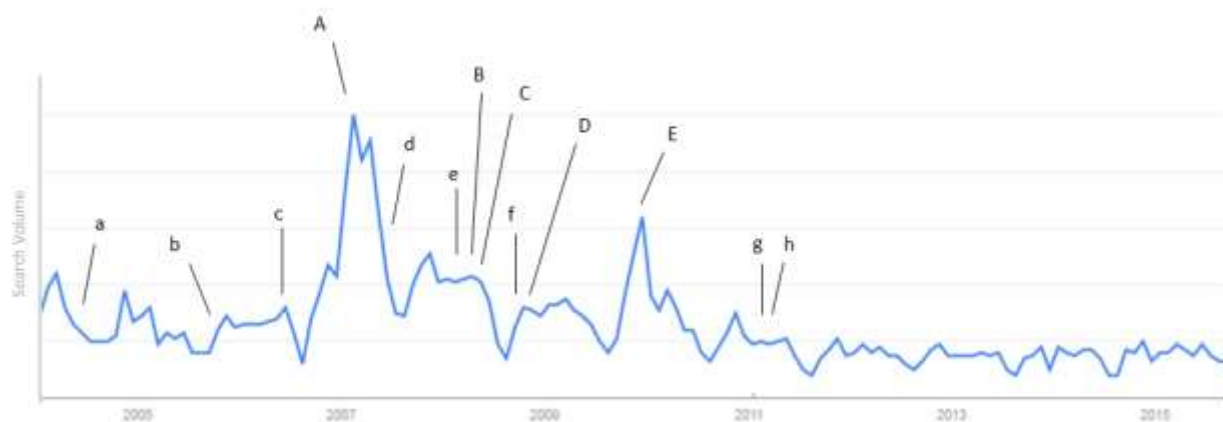
Search terms: "climate change" + "global warming"
Municipal Events: a = Council adopts requirements for City-owned buildings and voluntary standards for private development; b = Sam Sullivan takes office as mayor; c = Sam Sullivan announces EcoDensity; d = Decision to build Neighbourhood Energy Utility in South East False Creek; e = EcoDensity plan approved; f = Gregor Robertson takes office as mayor; g = Approval of requirement that new buildings on rezoned sites must meet LEED gold standards; h = *Greenest City Action Plan*
Provincial, Federal and International Events: A = Announcement of federal *Turning the Corner* Plan; B = Announcement of BC's *Climate Action Plan*; C = BC Carbon Tax takes effect; D = Adoption of BC's *Carbon Neutral Government* regulation; E = COP 15
Data source: Google Trends. See Figure 6.1 for methodological notes on this data.

Furthermore, there is little evidence to suggest that climate change was top of mind for voters when decisions about green building policy were taken in Vancouver (see Figure 6.5, above). Requirements for City-owned buildings and voluntary standards for the private sector, as well as the and the announcement of the EcoDensity strategy took place before the peak in

324

attention in early 2007, and the South East False Creek Neighbourhood Energy Utility and the adoption of the EcoDensity strategy took place afterwards. The new standards for rezoned sites and the adoption of the *Greenest City Action Plan* followed the later peak in attention that was likely the result of the COP 15 conference in Copenhagen in December 2009.

Ramslie also argues that the City's case for green buildings in the private sector is strengthened by the fact that can credibly threaten that they will not approve re-zoning applications unless developers meet their demands. This is because Vancouver is not relying on any one development project to make or break the local economy, and because they recognize that developer interest is less elastic than many believe (Ramslie 2015, Interview), especially given that development is a fairly high risk business with large upfront costs (Mikkelsen 2011, Interview). In other words, while the City is concerned about overall economic growth, they do not pin this on any one project. Thus, politicians and staff are less worried that green building requirements present a risk to the local economy than their counterparts in some other cities.

It could be argued that green building requirements *do* present less of a risk to the Vancouver economy than they do to the local economies of other municipalities. Perhaps Vancouver's success in adopting green building policy is because it simply has better economic conditions than other cities. Housing prices are higher, space is constrained, and "condo building is the business of Vancouver" (Bula 2011, Interview). However, these circumstances are not unique to Vancouver and do not necessarily make green building policy attractive. Toronto (which also benefits from high prices in the real estate market, but not the same geographical constraints) does have similar policy (see Chapter 7, below). Brampton, that has no green building policy (see Chapter 4, above), and similar cities have different, but analogous, real estate markets. For example, although there is not a significant market for condominium towers

in Brampton, because the city is within the Ontario growth boundary, all available greenfields must be made available for development. With new residential neighbourhoods being built on a regular basis, Brampton has an opportunity to improve the ways in which the neighbourhoods are designed and built. They have begun to do so with the new *Sustainable Community Development Guidelines*, but they could go much farther.

Moreover, David Ramslie argues that municipal governments are reluctant to oppose the wishes of developers proposing large projects, but they are not always justified in doing so.

> I think that local governments routinely underestimate how much developers will take. The City [of Vancouver] has really made an art out of asking developers for stuff….I think [other municipalities] could [say no to developers more often]. You need vision, you need political cover [from Council]…and you need a capable staff. (Ramslie 2015, Interview)

Consistent with the central hypothesis of this dissertation, the Sustainability group was central to the adoption of Vancouver's green building policy. David Ramslie began working on this file as an employee of the Sustainability group in 2007. Because the Sustainability group does not "have any formal jurisdiction itself, [and therefore] works through other groups to get what need[s] to get done" (Ramslie 2015, Interview), Ramslie worked very closely with the groups responsible for the adoption and implementation of building regulations at the City: the Planning department and the Chief Building Officer.

> Planning is responsible primarily for the Zoning and Development By-law, and the development of policy that relates to that. The Chief Building Officer is responsible for the Vancouver Building By-law, which is the building code….So being able to [work

326

with both of] those two different departments was really useful. (Ramslie 2015,

Interview)

From his position outside of both departments, Ramslie could also interface with Development

Services, the group that houses the administrators that process the applications related to both

by-laws.

While these groups were technically responsible for all building policy at the City, they

had limited capacity and interest in green building policy. Ramslie says that a lot of his job

involved "advocacy and pushing that we should be doing this stuff, and holding on to tenuous

little bits of legislation and policy wherever I could" (Ramslie 2015, Interview). Specifically, he

met with staff and more senior management to uncover their concerns and find local policy

champions. Additionally, he wrote the green building policy on their behalf and got "them to

review and sign off on it" (Ramslie 2015, Interview). While more intensive than the involvement

of the Sustainability group in the other policy areas discussed in this dissertation, Ramslie's role,

as he describes it, is consistent with the overall pattern of the Sustainability group's activities.

Evidence in the case of green building policy in Vancouver supports the argument that an

independent environmental department allows municipal governments to overcome political

economy barriers to climate policy, and does not support the hypothesis that policy champions

are the key variable. The role of David Ramslie as a policy champion here was *in the context of

his position in the group.* He is unlikely to have been as successful had he been positioned within

the Planning department, for example. Although Dale Mikkelsen met with success from within

that department, his work focused on a particular project. Further, the evidence in this case does

not support, and in fact weakens, the alternative hypothesis that Vancouver's success in this area

was due to provincial influence, either in the form of special powers granted or particularly

lenient rules.

Staff and politicians from other cities often told me that the Vancouver Charter gives the

City of Vancouver an advantage over other cities in the realm of climate policy generally, and

green building policy specifically. However, the Vancouver Charter is not static, and the City of

Vancouver is not a passive recipient of provincial dictates. The City can petition the Province to

change the provisions of the Vancouver Charter, and they are almost always successful. For

example, the Vancouver Charter did not provide all of the powers that the City needed to enact

the Neighbourhood Energy Utility by-law for South East False Creek, and in response to the

City's requests the Province amended the Charter to allow it.[117]

Another difference between Vancouver and most other Canadian cities is that the City

controls its own building code. This makes it easier to make changes and require green building

for a wider range of new and existing buildings. However, as discussed in the next chapter, even

without its own building code, the City of Toronto has enacted coercive green building policies

that apply to a broad scope of emissions. This is an indication that this provincially-granted

power is useful, but not the crucial factor in the adoption of green building policy in Vancouver.

---

[117] The Government of British Columbia amended the Vancouver Charter to add Section 300.1 which allows the construction and operation of energy utility systems in the city. This amendment was part of Bill 11, the Communities Services Statutes Amendment Act that included a number of other amendments to the Vancouver Charter and the Community Charter which applies to the other municipalities in British Columbia. Discussion of Bill 11 in the legislature was brief, and there was only one mention of s.300.1. MLA Joan McIntyre noted that the amendment was in response the City of Vancouver's request, and that other municipalities in the province were already permitted to operate utilities of this type (British Columbia 2007, 6390).

6.4   Conclusion

This chapter has shown that there is evidence that policymakers at the City of Vancouver are aware of the potential disincentives to climate policy created by political economy factors including cost considerations, implicit business influence, explicit opposition from economic actors and the public, and varying levels of public attention. However, there is also evidence that these have not always been barriers to policy adoption in the cases explored. As in the other cities, Vancouver's climate change decisions do not seem to be influenced by patterns of public attention to climate change. Further, the City's independent environment department, the Sustainability group was influential in facilitating policy adoption.

In this section I evaluate the evidence presented in this chapter relative to the empirical predictions of the hypotheses detailed in Chapter 2. I first consider the evidence pertaining to the hypotheses about political economy factors and independent environment departments, before moving to the alternative explanations of policy champions, network participation, electoral systems and provincial influence.

6.4.1   Political Economy Factors and Independent Departments

Evidence from Vancouver suggests that political economy factors are an important part of decisions about climate policy. For example, the evidence is consistent with the hypothesis that policymakers are concerned about the cost of policies for the local government. This evidence of this includes statements by members of the Sustainability group who say that when they are trying to convince staff in line departments to consider climate change objectives, they ask them to think about how they can "be more efficient, save money and achieve civic objectives while doing it" (Ramslie 2015, Interview). Likewise, in justifying the Burrard Bridge bicycle lane trial, Mayor Robertson appealed to residents thinking about the costs of alternative solutions: "Let's

329

make the trial a success so that we can avoid spending tens of millions of dollars on sidewalk widening, while making our city safer for cyclists and pedestrians at the same time" (Robertson 2009).

Similarly, evidence suggests that policymakers were affected by implicit business influence. They were concerned about promoting economic growth and the impact of climate policy on local economic actors. For example, Jerry Dobrovolny, Director of Transportation, argued that economic growth is central to the City's long-term strategy: "We [want] to position Vancouver not just to survive, but to excel over the next decades. Vancouver would be positioned to be a place where companies want to locate because the brightest and the best from all over the world want to live here" (Dobrovolny 2011, Interview). However, he continued that this is not inconsistent with climate policy. He said that the economic growth, and associated population growth and increase in daily trips had been accommodated through increases in the mode shares of walking, cycling and transit. This suggests that economic growth is an important consideration for Vancouver policymakers, but they do not consider climate policy to be antithetical to that growth.

Doug Smith also thought about the relationship between climate policy and economic growth, but in a different manner. Through outreach to the private sector, Fleet Services promoted the use of green fleet practices across a wide range of private interests. By facilitating interaction between the City and the private sector, and among private actors, Smith sought to demonstrate the compatibility of climate policy with economic growth.

Further, Vancouver policymakers demonstrated that they are influenced by public opinion. For example, they undertook extensive data collection, both about policy outcomes (e.g., how many cyclists used the new Burrard Bridge bike lane) and public opinion (e.g., public

approval of the traffic pattern changes as a result of the new lane). Additionally, policymakers often used public consultation strategically to build support for a policy. For example, Councillor Andrea Reimer argued that the purpose of public consultation is to ask "people to come together around the things they can come together on." Moreover, "if anyone is excluded from [the public consultation process], you're only creating a more challenging implementation environment" (Reimer 2011, Interview). Similarly, Deputy City Manager Sadhu Johnston argued that instead of asking people whether they approve of a policy, they instead ask "How can we do this [in a way] that is best for you?" (Johnston 2011, Interview).

Finally, there is clear evidence here that the influence of the Sustainability group has been substantial. This bureaucratic unit is relatively independent, as demonstrated through its survival across the terms of multiple mayors of varying ideology, as well as its cross-cutting mandate, and resources – in addition to funding from rebates from the provincial carbon tax, the group has "the brain power, the staff, and the time to work on climate policy" (Johnston 2011, Interview). Moreover, the group supported the work of staff in other departments, and provided funding and personnel (e.g., staff and funding for cycling infrastructure studies), equipment (e.g., electric vehicle charging stations for Fleet Services), and technical expertise (e.g., for the business case and details of the arrangement for carbon credits for the LFG project). These actions greatly facilitated the adoption of climate policy in each of the policy areas examined in this dissertation.

6.4.2 Alternative Explanations

While this chapter provides some evidence to support the alternative hypothesis about the influence of policy champions, the evidence also shows that the other alternative hypotheses presented in Chapter 2 are less good explanations of Vancouver's decisions regarding climate change policy adoption.

331

Politicians of all political persuasions have acted as climate policy champions, and there have been many staff who have played this role as well. This chapter has demonstrated that while policy champions are important, it is not always necessary for there to be *both* political *and* administrative policy champions. For example, while Mayor Gregor Robertson has been a strong champion of cycling infrastructure, and the administration has been supportive, there is no clearly identifiable administrative champion on this file. Likewise, while there was no clear political champion of green fleet management, Doug Smith successfully facilitated the adoption of a relatively extensive and high impact green fleet policy.

Another alternative explanation is that participation in inter-urban climate change organizations and networks promotes climate policy because such groups provide selective incentives in the form of financial and technical assistance. The City of Vancouver is a member of multiple inter-local climate change organizations including the FCM's Partners for Climate Protection, ICLEI-Local Governments for Sustainability, and C40 Cities. However, Vancouver is a *leader* in these organizations. For example, Vancouver is defined as an "Innovator City" in the C40 Cities network. According to the C40 Cities website, this category is for cities that are smaller than "megacities" (defined by population or economic output) and that are "internationally recognized for barrier-breaking climate work, leader[s] in the field of environmental sustainability, and regionally recognized "anchor cit[ies]" for the relevant metropolitan area" (C40 Cities 2015). Moreover, one of the innovative features of Vancouver's policy is the inventiveness with which they minimize costs (e.g., the bikeways network on residential streets) or find alternative funding sources (e.g., using development charges and density bonusing to facilitate green building). Accordingly, it seems unlikely that participation in inter-urban climate change networks is the cause of Vancouver's climate policy successes –

particularly if the mechanism is access to selective incentives in the form of information, technical advice or financial resources.

Contrary to evidence from the cases of Winnipeg and Brampton, the evidence presented in this chapter provides evidence in support of the hypothesis that at-large electoral systems increase the probability of the adoption of climate policy, where the mechanism is that it makes it more likely that environmentalists will be elected to Council (Hypothesis H9a). Vancouver uses an at-large electoral system, has many environmentalists on council, and has adopted a significant number of high impact climate policies. These councillors have been active on climate change files and have been able to effectively translate their preferences into policy. In contrast, the evidence presented in this chapter is mixed with regard to the hypothesis that at-large electoral systems facilitate climate policy because this encourages councillors to think beyond the boundaries of particular neighbourhoods (H9b). Most councillors seemed concerned with issues that spanned the city; however, the evidence above further suggests that this broad focus did not lead to consensus about climate change action. For example, Dale Mikkelsen argued that while there was broad agreement that the Southeast False Creek development should be planned and constructed with high green standards, Councillors disagreed sharply about the form those standards should take (Mikkelsen 2011, Interview). Overall, and compared to the experience of Winnipeg, it seems likely that actions of individuals who are particularly concerned about climate change were more important than the means through which they were elected. In other words, the evidence is more consistent with the policy champions hypothesis than the electoral systems hypothesis.

Evidence from the Vancouver case also significantly weakens both hypotheses regarding provincial influence: that municipal climate policy is the result of minimum standards imposed

by the provincial government; and that cities would adopt more high impact climate policy if they were not limited provincial restrictions.

First, Vancouver's policy vastly exceeds provincial requirements and has high impact policy in areas that are not regulated by the provincial government. As a result, it cannot be that its high ranking across Canadian municipalities is because of British Columbia's high minimum standards. Second, while the City of Vancouver was restricted by the British Columbia legislative framework, they found ways to overcome these barriers. In some cases they changed details of programs in order to avoid conflict with the provincial government (e.g., building bicycle lanes on streets parallel to provincially-controlled arterial roads) or they sought to overturn the restrictions (e.g., by petitioning the provincial government to allow the Southeast False Creek Neighbourhood Energy Utility). The provincial government certainly had an influence on Vancouver's climate policy. The British Columbia government grants Vancouver the ability to control its own building code and often accedes to the City's requests for changes to the Vancouver Charter. Moreover, the creation of a market for carbon offsets increased the financial incentives for reducing greenhouse gas emissions. However, the City's willingness – under multiple leadership regimes – to challenge the restrictions placed upon it by the provincial government suggests that provincial influence cannot be considered a primary cause of variation in Canadian municipalities' climate policy.

The next chapter examines decision-making in the City of Toronto, another case of a city that has relatively extensive high impact climate policy.

Table 6.1 Summary of Process Tracing Evidence (Vancouver)

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
H1 (Explicit Business Influence)	Firms and industry associations lobby policymakers about climate policy issues	• Politicians meet with firms and individuals who make donations to political campaigns • No direct lobbying by firms or industry associations for LFG or fleet • Businesses that lost parking or experienced traffic pattern changes as a result of downtown separated bicycle lanes complained and requested particular changes • If it was up to the developers there would be no green building policy, as they will almost always prefer to build as they always have because "it's cheaper, it's faster, it's easier" (Former staff member)	Easy Hoop	Pass	Strengthened
	Active participation by firms and industry associations in climate policy development	• Firms and industry associations participate in stakeholder consultations and roundtables for transportation and planning issues • No participation by firms or industry associations in LFG decisions either directly, or through public comment process • Participation of private actors in fleet roundtables, but these not directly related to policy development • Many developers can be persuaded to accept green building policy if they are consulted and convinced that there is a market for the product and the potential for relatively low additional costs (Former staff member) • For green buildings, developers were worried about affordability: "Nobody wants to be regulated more. Nobody puts their hand up and says 'Give me more rules'" (Staff member)	Easy Hoop	Pass	Strengthened
	Concessions made to economic actors on climate policy	• A few changes made to bike lanes and traffic patterns as a result of complaints • Consulting with stakeholders seen as necessary to generate buy-in • For building policy development industry consulted because "[t]hey have an expertise that shouldn't be disregarded….Why shouldn't we listen to them? You can't give me advice about how to build a high rise condo. You can say the things you'd like to see in it, but you can't tell me how to build it." (Former staff member)	Easy Hoop	Pass	Strengthened

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
	Climate policy adopted does not impose high costs on locally important economic sectors	• No impact of LFG or fleet policy on local economic sectors • Minimal impact of cycling lanes on retailers • Green building imposes large costs on developers but these mitigated by arrangement to subtract cost premiums from community amenity contributions	Easy Hoop	Pass	Strengthened
H2 (Implicit Business Influence)	Climate policy adopted not expected to impose high costs on locally important economic sectors	• No impact of LFG or fleet policy on local economic sectors • Minimal impact of cycling lanes on retailers • Green building large imposes costs on developers but these mitigated by arrangement to subtract cost premiums from community amenity contributions	Easy Hoop	Pass	Strengthened
	Policymakers demonstrate concern about effect of climate policy on local business and investment	• Cities (including Vancouver) are keen on climate policy because they see it as a "competitive advantage" (Staff member) • Marketing campaign to attract sustainable business to the city through the Vancouver Green Capital project 2010 Winter Olympics • Green policy seen as a way to position Vancouver as "a place where companies want to locate because the brightest and the best from all over the world want to live" (Staff member) • Studies showed that construction of downtown cycling lanes "hasn't had a negative impact on the businesses" (Smith) • Green building policy approved as long as "sure that we're not driving development out of Vancouver" (Staff member) • Staff created models showing that the proposed green building policies were not "going to a) make stuff unaffordable [for] residents… and b) it wasn't going to radically change the economics of buildings" for developers" (Staff member) • Policymakers not captured by real estate developers because they see this as only one of several industries and know that developer interest is not very elastic (Staff member) • "We want to have growth in the system: to see the population grow, jobs grow, trips grow. We want a strong economy in the city, to be a competitive world leader, but we accommodated that increase in walking, cycling and transit" (Staff member) • Sustainability group works with local businesses to encourage	Easy Hoop	Pass	Strengthened

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
		adoption of green fleet management practices: "If these businesses become more competitive because they're became greener. That helps the local economy, which ticks another policy box for the City" (Staff member)			
	Outside observers perceive that policymakers prioritize economic growth	• The City is "selling a positive image of green. It's not doing something about climate change. Green is being marketed as a brand….It's not about substantive societal change, and certainly not about the kind of change that's necessary to deal with climate change" (Sustainable transportation advocate) • "They've achieved what's politically feasible, not what's ecologically necessary" (Environmental advocate)	Easy Hoop	Pass	Strengthened
H3 (Public attention)	Correspondence between adoption of policy and salience of climate change relative to national levels	• Public attention to climate change was slightly higher in British Columbia relative to levels of public attention nationally; Vancouver adopted significant municipal climate policy	Straw-in-the-wind	Pass	Strengthened
	Correspondence between timing of peaks in salience of climate change and adoption of climate policy	• *Greenest City Action Plan* adopted well after major peak in public attention to climate change • No correspondence between timing of LFG, fleet, cycling or building policies and public attention to climate change	Straw-in-the-wind	Fail	Weakened
	Correspondence between policy adoption and policymakers' perception that the public is paying attention to the specific policy issue	• Low perceived attention to landfill gas management; high impact policy • Low perceived attention to green fleet policy; minimal publicity of actions; relatively high impact policy • High perceived attention to cycling infrastructure, but only in response to specific proposals and projects; high impact policy • Medium level of attention to green building policy, especially in context of Southeast False Creek; high impact policy	Easy Hoop	Fail	Greatly weakened
H4 (Public Opinion)	In general, policymakers seek out and care about public opinion	• Town-hall meetings and other public consultations used as "shortcuts" for understanding broader views within the community and to ask "people to come together around the things they can come together on" (Councillor) • Provincially administered public comment process for LFG • Minimal advertising of green fleet policy	Easy Hoop	Pass	Strengthened

337

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
		• Mid-trial study of Burrard bridge trial bike lane showed support from all segments of bridge users • Significant public participation in planning process for South East False Creek • Public consultation conducted for all re-zoning applications			
	Positive correlation between level of citizen lobbying in favour of climate policy and adoption of climate policy	• "We certainly pay attention, but sometimes we bring in policy that everybody who came to speak about it was against because it might be something that's close to them and they're concerned about it. But we feel that there is a greater good" (Councillor) • Limited response to public comment process for LFG policy • Lots of objections to separated bicycle lanes, particularly on the Burrard Bridge. Initial trial in 1996 cancelled after one week of public uproar • "The question that is posed to the public is 'How can we do this [in a way] that is best for you?' It's not 'Should we do this?' Some people come out and all they have to say is 'Bike lanes are bad. Don't do it.' We take this feedback, but we continue with our plan as directed by Council." (Staff member)	Easy Hoop	Pass	Strengthened
	Positive correlation between policymakers perceptions of public approval of climate policy and adoption of climate policy	• Push for improved LFG capture mostly from residents of Delta who cannot vote in Vancouver. • Media reported much more negative public opinion of initial Burrard bike lane than was actually the case; pilot cancelled after one week • Westside residents asked mayoral candidate Peter Ladner "Why would you spend a lot of money to inconvenience car drivers who number in the thousands for the sake of cyclists who number in the hundreds?" • For Burrard Bridge lane: Vision Vancouver polling showed more in favour than opposed (although 30% strongly opposed and 20% strongly in favour); they did it anyways	Easy Hoop	Fail	Greatly weakened
H5 (Minimizing costs to local government)	In general, policymakers see fiscal responsibility as central to their role in government	• Across time, City Councils "all really have very similar core values….At the core, you've got to be financially responsible, and you've got to be green" (Staff member) • In empowering staff, Sustainability group asks them to consider "How can you be more efficient, save money and achieve civic	Easy Hoop	Pass	Strengthened

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
		objectives while doing it?" (Staff member) • Departments are motivated to apply green fleet practices because "[t]hey have to pay for the fuel. They have to pay for the maintenance….There's a huge incentive for them to do the right thing: not to abuse the vehicles, not to buy something they don't really need" (Staff member)			
	Climate policy proposals are discussed in the context of their fiscal implications	• Successful bidder for landfill gas utilization had to provide the financing for the project and take on the risks of building and operations • Revenue generated by the LFG project offset its operational costs • Green fleet practices save the City about $1 million per year, mostly in fuel and maintenance costs • The Green Fleet Plan makes it easier to justify specific measures that might not save money individually (Staff member) • Low cost of bikeway network made it attractive: "We hardly had to spend any money" (Councillor) • Mayor Robertson framed Burrard bike lane in terms of cost: "Let's make the trial a success so that we can avoid spending tens of millions of dollars on sidewalk widening, while making our city safer for cyclists and pedestrians at the same time"	Easy Hoop	Pass	Strengthened
	Climate policy is adopted when it is expected to lead to net savings for the local government	• LFG policy expected to lead to significant revenue through carbon credits and electricity generation • LFG volume expected to decline over time due to organics diversion, which reduces expected future revenue • Green fleet practices were expected to lead to net cost savings • Cycling infrastructure does not generate revenue; creates net costs • Green building policy led to net costs to the City because costs to developers were subtracted from the amount paid to the city through community amenity contributions for increased density allowances	Easy Hoop	Fail	Greatly weakened
H6 (Independent environment departments)	Positive correlation between independence of environment department and policy adoption	• Large number of relatively high impact policies adopted • Sustainability group established in 2002 • Reports directly to Deputy City Manager rather than through the hierarchy of a traditional line department	Easy Hoop	Pass	Strengthened

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
		• Sustainability group has "the brain power, the staff, and the time to work on climate policy" (Staff member) • Relatively large staff develop policy and outreach campaigns aimed at both internal and public audiences; and five "embedded" staff work in other departments • Dedicated funding (mostly from carbon tax rebates); staff apply for grants			
	Where high impact climate policy is adopted, environment departments have provided information and/or resources	• Support for others and relationship-building central to group's role • Sustainability group described as "the goalie and the defense" of a soccer team (Councillor); "think tank" that provides big picture climate change goals and policy development (Staff member); "specialized consulting firm" because "the best changes really have to happen from the inside" (Staff member) • "Embedded" staff promote and undertake sustainability goals in host departments • Sustainability group did the work on the business case and for carbon credits for LFG policy • Group worked directly to empower Chris Underwood, Manager of Solid Waste Strategy • Sustainability group purchased electric charging stations for public use and allowed Equipment Services to use them for piloting the fleet's first electric vehicles • Sustainability group supports staff in the Transportation to build bicycle infrastructure by "providing that specialty subject matter expertise or adding just a little more horsepower to get their projects over that hump so they can keep moving forward" (Staff member)	Easy Hoop	Pass	Strengthened
	Municipal environment departments are created and sustained from varied sources	• Created during tenure of "right wing" mayor; expanded and flourished through tenure of three subsequent mayors with alternating ideological leanings • "There always has been kind of sustainability department at the City, but it's had stronger and less strong staff and leaders over the years…[S]urprisingly, under Vision, it hasn't had any more profile than ever before" (Journalist)	Easy Hoop	Pass	Strengthened
H7	There are policy	• Political champions across party lines - NPA: Price, Sullivan,	Easy Hoop	Pass	Strengthened

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
(Policy champions)	champions are strongly committed to climate change mitigation at the local level	Ladner, Anton; COPE: Cadman; Vision: Robertson, Reimer • Bureaucratic champions in multiple departments as well as Deputy City Manager Sadhu Johnston			
	Bureaucratic champions promote climate policy throughout its development and adoption	• Chris Underwood and Paul Henderson from Solid Waste for LFG • Doug Smith for green fleet • Dale Mikkelsen for green building policy in South East False Creek • David Ramslie for green building, specifically brokering the deal with Chief Planner about community amenity contributions • No clear bureaucratic champion of cycling policy	Hard Hoop	Pass	Strengthened
	Political champions promote climate policy throughout the process of its adoption (i.e. in committee and Council meetings)	• No clear political champion of LFG or fleet policy • Gordon Price and Mayor Robertson for cycling lanes • Mayor Sullivan for green buildings – specifically EcoDensity	Easy Hoop	Pass	Strengthened
H8 (Inter-urban networks)	Positive correlation between participation and climate policy adoption	• Vancouver is a member of the Partners for Climate Protection ICLEI and C40 Cities; Councillor Chuck Cadman was president of ICLEI; • Many high impact policies	Easy Hoop	Pass	Strengthened
	Participating municipalities access selective incentives provided by climate change networks	• Policymakers attended meetings and at the very least benefited in reputational terms for their participation and leadership • Leadership in groups makes it less likely that Vancouver is motivated by selective incentives provided	Easy Hoop	Pass	Strengthened
	Non-participants do not have access to selective incentives provided by networks	• Vancouver does not access selective incentives from climate networks of which it is not a member	Easy Hoop	Pass	Strengthened
H9a (At-large systems: more environmentalists)	Cities with at-large electoral systems have more climate policy than cities with ward systems	• Vancouver has an at-large system and ranks second in terms of climate policy among Canada's largest cities: strong landfill gas management policy; strong green fleet policy; extensive cycling infrastructure; extensive green building policy	Easy Hoop	Pass	Strengthened
	At-large electoral	• Vancouver has had a relatively large number of environmentalist	Easy Hoop	Pass	Strengthened

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
	systems produce more environmentalist councillors than ward systems	councillors, especially given the small size of the council. These have included Price, Cadman, Ladner, Anton, Reimer and Deal			
	Environmentalist councillors in both systems are active participants in climate policy adoption	• Environmentalist councillors were active in the adoption of cycling policy (Ladner was supportive as a councillor, but less so as mayoral candidate) • Environmentalist councillors were active participants in adoption of green fleet policy. • Environmentalist councillors were not actively involved in decisions about fleet or landfill policies.	Easy Hoop	Pass	Strengthened
H9b (At-large electoral systems: ethos theory)	Cities with at-large systems have more climate policy than cities with ward-based systems	• Vancouver has an at-large system and ranks second in terms of climate policy among Canada's largest cities: strong landfill gas management policy; strong green fleet policy; extensive cycling infrastructure; extensive green building policy	Easy Hoop	Pass	Strengthened
	In at-large systems councillors prioritize issues that do not have geographically concentrated effects, whereas in ward systems councillors focus on issues that affect their own wards	• Climate change and the specific policy areas tended not to be discussed and decisions tended not to be made in the context of their effects on particular areas of the city • However, geographically concentrated objections considered as well – e.g. Westside residents objecting to Burrard bridge bike lane	Easy Hoop	Pass	Strengthened
	Climate change mitigation seen as within municipal jurisdiction in at-large systems, but not in ward systems	• Climate change mitigation and all of the specific policy areas considered to be within the jurisdiction of the municipal government	Easy Hoop	Pass	Strengthened
H10a (Provincial influence: minimum requirements)	Local climate policy meets minimum provincial requirements, but does not exceed them	• Vancouver meets minimum provincial requirements for LFG • LFG capture, utilization and reporting preceded provincial involvement; exceeds requirements • "[T]hat's what our Council wanted to see: that we were more aggressive than the regulatory minimum" (Staff member) • Vancouver controls its own building code, and so the provincial	Easy Hoop	Fail	Greatly weakened

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
		government's minimum green building standards are less relevant • No minimum requirements for fleet policy or cycling infrastructure			
	Municipalities do not adopt climate policy in areas not regulated by the provincial government	• Green fleet policy and cycling infrastructure not regulated by provincial government, but Vancouver has adopted policy in these areas	Easy Hoop	Fail	Greatly weakened
H10b (Provincial influence: restrictive limits)	Municipalities take advantage of subsidies and other non-regulatory incentives to climate policy	• Provincial subsidies for electric cars accelerated adoption • Provincial carbon tax, carbon tax rebates, and carbon neutral government mandate helped the city to generate revenue from landfill gas capture and incentivized emissions reductions in other areas	Easy Hoop	Pass	Strengthened
	Cities are unsuccessful in challenging provincial restrictions on climate policy	• Many arterial roads classified as provincial highways and so the City does not have jurisdiction to implement bicycle lanes. Bikeway network on residential streets circumvents this restriction • Vancouver petitioned the provincial government to be allowed to enact the Neighbourhood Energy Utility by-law • Vancouver controls its own building code, and so the provincial government's maximum green building standards are less relevant • There are no restrictions on LFG or fleet policy	Easy Hoop	Fail	Greatly weakened

[a] See Chapter 3, and Table 3.1 in particular, for a full overview of the types of process tests, their difficulty, potential outcomes, and the implications of those outcomes on the hypothesis.

Chapter 7: Toronto, Ontario

This chapter explores the case of the City of Toronto, often cited as a municipal climate leader. But Toronto's success in this regard is in itself puzzling. City of Toronto policymakers face a similar political economy context to their counterparts in other large cities. How is it that they are able to overcome these disincentives where others are not? As in the rest of the dissertation, I argue that Toronto's success is due to the presence of independent municipal departments dedicated to issues of sustainability.

I begin with a profile of the City of Toronto. I then discuss the City's political economy context and describe the emergence and operation of its dedicated environment departments. I then show that there are potential climate policy champions in Toronto who could have influenced policy adoption consistent with that alternative hypothesis. The chapter then transitions to testing the hypotheses through detailed process tracing of the adoption of specific policies in the areas of landfill gas management, cycling infrastructure, fleet management and building standards. As described in detail in Chapter 3, process tracing methodology involves comparing observations from at least one case to the empirical predictions of hypotheses. The leverage comes from the within-case analysis of each case rather than from comparison across cases. I conclude with a discussion of the overall results of the analysis and its implications for the theory advanced in this dissertation as well as the alternative hypotheses.

7.1 A Profile of the City of Toronto

Toronto, the capital of Ontario, is Canada's largest city, with a population of 2.6 million residents. First incorporated in 1834, the city has long been a commercial and political centre. In 1953 the Metro Toronto regional government was created with Toronto and surrounding municipalities forming the lower tier. This system was transformed in 1998 when the six

constituent municipalities[118] were amalgamated into a single "megacity" by the provincial

government. There was significant opposition to the amalgamation by citizens of all of the

municipalities – those in the central city worried about losing their progressive policy, and in the

suburbs they were concerned about having to pay for the centre's "frills" and "extravagances"

(Sancton 2011, 154). Court challenges brought by citizens against the amalgamation failed, and

the provincial government imposed the changes in spite of the objections.[119]

Toronto's 44 city councillors are chosen using a ward-system. There are no local political

parties – all candidates run as independents. As a concession by the provincial government in

1998, Toronto's wards respect the boundaries of the former municipalities, and therefore

preserve a small degree of each community's identity. There is also a system of community

councils – subsets of the full council whose members are the representatives of the wards in each

of the former constituent municipalities.[120] In 2006 these councils were given limited decision-

making power but they cannot make zoning decisions or levy any form of tax.

As in all Canadian municipalities, the mayor is not particularly powerful.[121] However, the

mayor's influence was increased in 2007 at the urging of the provincial government. It was

decided that the mayor would appoint the deputy mayor as well as the heads of all the standing

---

[118] There were originally thirteen constituent municipalities in 1953, but these were amalgamated into six in 1966.
[119] Justice Stephen Borins' ruling reinforces the dominance of provincial governments over local governance. He agreed that the province had not respected the views of Metro Toronto citizens, but argued that "the *Charter* [*of Rights and Freedoms*] does not guarantee the individual the right to live his or her life free from government *chutzpah* or imperiousness" (quoted in Sancton 2011, 154).
[120] In 1999 following the provincial *Fewer Municipal Politicians Act*, the six community councils were reduced to four by combining the Toronto and East York councils and the Etobicoke and York councils.
[121] The mayor has a single vote on Council (in Toronto this is one of 45) and is the public face and voice of the local government with a degree of control over the legislative agenda. The mayor is also elected at-large which may impart a legitimacy that ward-based councillors may not have. Although in many Canadian cities the mayor chairs meetings of the City Council, in Toronto there is Speaker who is elected from among the councillors.

committees, who would in turn form the majority of the Executive Committee.[122] This

committee is chaired by the mayor and provides policy leadership to council. All proposals must

pass through the Executive Committee before being debated by the full Council.

Toronto is governed by the *City of Toronto Act, 2006* which expanded the authority of the

municipality, "for everything from taxation and governance to planning and development"

(Mendleson 2014). Early uses of the new powers included the new land-transfer tax and a

vehicle registration tax.[123] Despite these powers, critics argue that the City has not taken

advantage of the authority permitted to them under the *Act* (Mendleson 2014).

7.2   Political Economy Factors and Independent Departments

If the City of Toronto has a lot of relatively high impact climate change mitigation policy

because of independent environment departments we should observe evidence consistent with

the empirical predictions of that hypothesis (see Chapter 2 for a detailed explanation of that

hypothesis). Because these predictions are in the form of easy hoop tests, observing evidence

consistent with them will strengthen our confidence in the hypothesis, but not observing such

evidence will greatly weaken our confidence in the hypothesis.

7.2.1   Political Economy Factors

The political economy context in Toronto is similar to that in the other cities.

Policymakers feel pressure to contain costs and to promote economic growth. They face

---

[122] Following scandals related to Mayor Rob Ford's personal and professional behaviour in November 2013, the council voted to reduce the mayor's powers, transferring many of the responsibilities to the deputy mayor. This suggests that, in the absence of a supportive coalition on council, the mayor of Toronto is less powerful than the list of formal responsibilities might suggest.

[123] Eliminating the vehicle registration tax was one of the key planks of Mayor Rob Ford's election campaign in 2010, and he followed through on this promise once he took office.

inconsistent public attention to climate change, changing messages from constituents, and are subject to explicit lobbying by economic actors.

Martin Horak argues that a "defining feature of Toronto politics since amalgamation is the sense of fiscal crisis in the city" (Horak 2012, 232). One reason for this is that the provincial government downloaded more responsibilities to the City without commensurate transfer payments. Policymakers thus seek to contain costs to deal with this increased fiscal responsibility. Second, Horak argues, the City of Toronto has higher rates of business property tax than surrounding municipalities. Thus policymakers seek to minimize expenditures in order to avoid having to raise taxes further and put the City at a further competitive disadvantage in the regional context (Horak 2012, 232-233).

This latter argument points to two political economy factors of concern here. Concern about business property tax rates encourages policymakers to contain costs, but it is also evidence that policymakers are subject to implicit business influence and that the City does compete economically with other municipalities in the region. While being located in the central city of the metropolitan region has certain advantages for economic actors, it is also costly. Moreover, locations in other municipalities within the region may afford similar advantages. Toronto has had dedicated economic development units within the local government since the 1980s (Gertler 1990).

The Toronto government is also subject to significant explicit lobbying by economic actors. Horak argues that *because* the city is a regional, national and global financial centre business interests – specifically the Toronto Board of Trade and the Toronto City Summit Alliance – are particularly powerful (Horak 2012, 232). Within a narrower context, the reports of the Toronto Computer Leasing Inquiry, prompted by a conflict of interest scandal, document

347

extensive and inappropriate lobbying of public officials by the private sector – including a

chartered flight to a Stanley Cup playoff game in Philadelphia (Bellamy 2005a, 31).

Public attention to issues, as well as constituents' views of those issues, also play an

important role in decision-making at Toronto City Hall. For example, environmentalist

Councillor Gord Perks' has observed changes in the salience of climate change policy over time

through the comments made to him by Toronto residents. He says that in the 1980s no one had

heard of climate change, but by the end of the 2000s people were stopping him on the street to

say that the City had not done enough on the topic. But since the recession of 2008 and the

collapse of the Kyoto Protocol, he says, "things have really dropped off" (Perks 2012,

Interview). He argues that the state of public attention and public opinion in favour of climate

change is at a higher level than it was twenty years ago, but it is less than it was five or ten years

ago.

Consistent with the alternative hypothesis regarding the effect of electoral systems on the

types of issues councillors spend their time discussing, there is significant evidence that city

councillors in Toronto focus their attention on their own wards. Perks argues that despite having

their "hands on some pretty big levers" that could lead to important city-wide outcomes,

councillors in Toronto are very focused on the issues to which their constituents are paying

attention, and interested in responding to the specific concerns of those constituents. He says that

there is a lot of resistance to climate change action on Council as a result of the desire of elected

representatives to stick to "ward-healing" issues (Perks 2012, Interview). This is consistent with

Justice Bellamy's observation, as part of the Toronto Computer Leasing Inquiry, that "some

councillors see themselves…as ward administrators. Councillors are sometimes even called

'ward bosses' (Bellamy 2005b, 17). In her "Good Government" report, Bellamy sees the focus on narrow issues of local concern as a major flaw in the Toronto governance system:

Service to constituents is an essential aspect of elected office, but Toronto would be better served by a more balanced combination of attention to local detail and broader policy planning. City government must do both, but when hard choices must be made, the City needs visionary, strategic, and policy-based leadership from its councillors far more than it needs councillors micromanaging the placement of speed humps. (Bellamy 2005b, 17)

Gord Perks argues that to some extent, close attention to public opinion is necessary for electoral purposes. Like other environmentalist councillors, Perks was clear about his personal priorities during and after election campaigns, but in order to increase his electoral appeal, he balanced this with close attention to other priorities expressed by constituents such as "fees for soccer teams in the neighbourhood" (Perks 2012, Interview). Other councillors who do not share his environmental views stay focused on the specific priorities and views expressed in their wards and are less willing to support broader initiatives. Passing environmental policy, he says, is like "pushing a pretty big rock up a pretty steep hill" (Perks 2012, Interview).

Like their counterparts in other cities, Toronto residents pay variable attention to climate change, and the pattern of this attention follows national trends, though at a slightly higher level (see Figure 7.1, below). Attention was high in 2007 when the City's *Climate Change, Clean Air and Sustainable Energy Action Plan* was adopted under Mayor David Miller – which was about the same time as the federal *Turning the Corner* plan was announced. Mayor Rob Ford, a strong opponent of climate change policy, was elected nearly a year after the next highest peak that corresponds with the COP 15 conference held in Copenhagen in December 2010.

Figure 7.1 Public Attention to Climate Change in Ontario (Toronto) and Canada
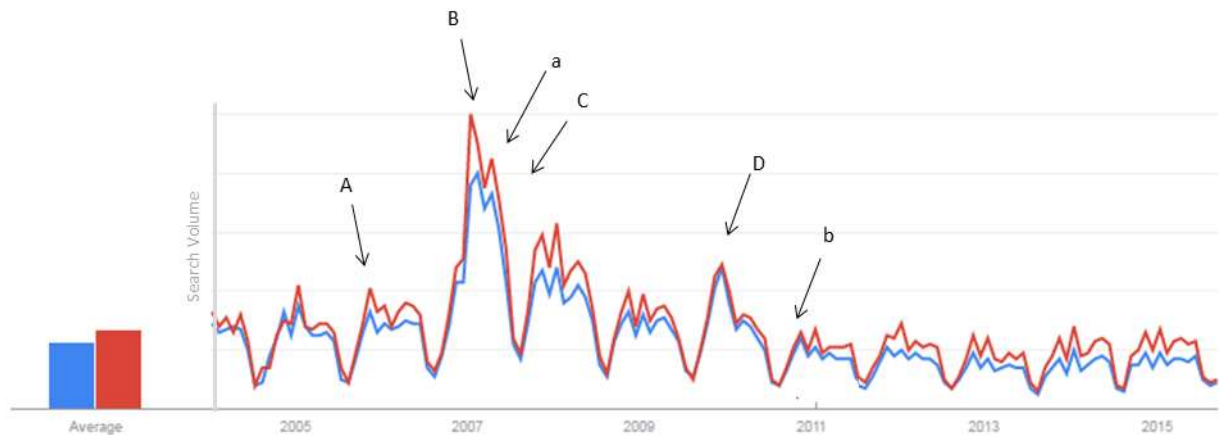
Blue: Canada; Red: Ontario
Search terms: "climate change" + "global warming"
Municipal Events: a = Adoption of Toronto's *Climate Change, Clean Air and Sustainable Energy Action Plan*;
b= Rob Ford becomes Mayor
Provincial, Federal and International Events: A = Enactment of *City of Toronto Act 2006*; B = Announcement of federal *Turning the Corner* plan; C = Adoption of Ontario's climate change action plan; D = COP 15
Data source: Google Trends. Google Trends provides normalized and scaled data. The results of each search are plotted "on a scale from 0 to 100 by dividing the total search volume at each point in time by the highest value within that same time frame" (Ripberger 2011). Google Trends data is not available at the municipal level in Canada. However, the program compares regional search volume within the province. In Ontario, Toronto's relative search volume is 70. The "numbers represent search volume relative to the highest point on the map which is always 100" (Google Trends). This strengthens the validity of measuring issue salience of climate change in Toronto using Ontario data.

Observing municipal environmental policy from the outside, Margaret Kelch, environmental activist and Conservation Councillor at the Toronto Ornithological Club, sees costs to the local government and public pressure as the primary determinants of City action. While she argues that there is some public support for "nature issues", this is not what pushes policy and progressive ideas. Rather, the City seeks to minimize costs unless there is a compelling case for action in the form of public complaints or significant risks to public safety. For example, in the case of the Leslie Street Spit – an urban park designated for bird habitat conservation – she says that the City is unlikely to enforce rules designed to protect wildlife, such as prohibiting dogs in the park, because resources are thinly spread and thus it is not a

350

priority to enforce rules that do not lead to public complaints or public safety risk (Kelch 2012, Interview).

Overall, the above shows that despite Toronto's success in adopting climate change mitigation policy, policymakers have encountered a political economy context that could have acted as a barrier to such policy.

7.2.2   Independent Environment Departments

The City of Toronto has a long history of dedicated environment departments within the administration. Currently there are two: the Environment and Energy Division (EED) and the Toronto Atmospheric Fund (TAF). This section describes the origins of each department as well as its evolution over time. The purpose is twofold. First, the claim that independent environment departments have an effect on the adoption of climate policy in municipalities is stronger if I can demonstrate that they are not simply the result of another, antecedent, variable. Moreover, establishing that such departments are not simply the manifestation of another factor reduces the probability that the observed relationship between local environment departments and climate policy is spurious – that is, that the climate policy and the departments are each, separately, caused by a third variable. Second, an exploration of the departments' origins and evolution will shed light on the degree to which each is insulated from political interference as well as the organizational capacity of each. These are the two dimensions of independence and are crucial for the operation of the mechanism through which I hypothesize that they have an impact on climate policy. Testing the causal mechanism also helps in evaluating spuriousness, as finding evidence consistent with the empirical predictions of the hypothesized causal mechanism significantly decreases the chances that the observed relationship is spurious.

If the departments have an independent causal effect and are not the result of a missing third variable we should observe that they have various origins. In other words, they will have emerged from a variety of contexts and circumstances at different points in time. While their creation may have been influenced by the principled beliefs of a policy champion or a moment when the environment was particularly salient, if they do not have a common origin story they are unlikely to be the result of a single missing variable.

If the departments are independent, we should observe that they are situated within the municipal administrative structure (i.e. they are not directly appointed by politicians or positioned within political structures such as the Mayor's Office) but outside of the hierarchy of traditional line departments such as Planning, Engineering, Transportation, or Public Works. They should also have a dedicated budget, staff, and a mandate to intervene horizontally across departmental boundaries and to develop climate change policy that could affects the whole city and all departments.

7.2.2.1   The Environment and Energy Division

The Environment and Energy Division (EED) is the official sustainability division within the administrative structure,[124] and operates under the purview of the Chief Corporate Officer (Toronto 2015). The division's origins lie in the 1985 decision to create the Environmental Protection Office (EPO). Then-Mayor Art Eggleton was planning to run for re-election against Anne Johnston, a prominent councillor with environmentalist leanings. Eggleton knew about the US Environmental Protection Agency (EPA), and decided that having a Toronto equivalent

---

[124] The City of Toronto uses the term "division" to refer to autonomous bureaucratic units, in the way that other governments might refer to departments or ministries.

would be advantageous for his campaign (Davies 2012, Interview). Kate Davies, the founding

head of the EPO, argues that for Eggleton this was a matter of political expediency rather than

personal dedication to environmentalism (Davies 2012, Interview). According to Davies,

Eggleton asked the Director of the Board of Health, Sandy McPherson, and Davies, who was a

research consultant at the time, to create a Toronto version of the EPA (Davies 2012, Interview).

In February 1987, the Toronto Board of Health approved the creation of the EPO and its

functions (to conduct research into new ideas and to respond to existing environmental

protection needs), as well as its jurisdiction and half million dollar budget (Davies 2012,

Interview). Reorganized from existing staff at the former Health Protection Office, the EPO was

fairly large from the beginning with ten professional staff and two clerks. The organization had a

broad mandate to screen all by-law amendments and development applications and to review

previous land-use decisions to determine whether land was contaminated (Davies 2012,

Interview).

The mandate of the EPO and the issues it addressed changed over the nearly twenty-five

years of its existence. Over time climate change and air quality, seen from a human heath

perspective, became two of the major focuses of the organization. This change in mandate was

particularly apparent at the time of the amalgamation of Metro Toronto in 1998. The EPO's new

mandate was to provide information and advice to departments across the now much larger

municipal administration about a) policies that were being proposed, and b) broader

environmental issues that might affect the public. Issues they regularly addressed included health

risks, how much of the population would be affected and how severely, and equity

considerations.

Another development that occurred when the City of Toronto was amalgamated with the other constituent municipalities of Metro Toronto in 1998 was the creation of a new Environmental Services unit was formed within the Technical Services division. This unit served as a "one-stop shop for environmental projects, consultation, communication, policy development, environmental assessments [with a staff of] about 68 people" (Oates 2012, Interview). However, this unit was not long-lived. In 2004 the Director of the unit was let go and there was a "wholesale breakup of the unit" (Oates 2012, Interview), and many of the responsibilities were hived off to other units.[125] The remaining nine staff in the air quality and outreach branches were reconfigured into the Toronto Environment Office (TEO) and tasked with creating a climate change action plan to present to committee and Council (Oates 2012, Interview). This plan was completed in 2007.

From 2007 to 2013, TEO had a mainly strategic role – developing plans for sustainable practices within the city and community – but also engaging in some research and some consultation with other bureaucratic groups within the City. One of the key strategic roles of TEO was to facilitate the Executive Environment Team. This group was chaired by the Director and brought together staff from multiple divisions, commissions, boards, and agencies. These meetings were institutionalized opportunities for staff to share ideas and best practices, and to make sure that everyone was on the same page (Oates 2012, Interview).

In 2011, consulting firm KPMG provided a core services review to the Toronto Parks and Environment Standing Committee. This report noted that the activities of the Toronto

---

[125] John Warren had been the Director of the Environmental Services unit since its creation in 1998. I was unable to learn the exact circumstances of his departure. After leaving the City of Toronto, Warren was a Senior Associate at the Canadian Urban Institute.

Environment Office were largely discretionary (i.e. not required by provincial law) and advised that the city could save money by eliminating the department "albeit with some damage to Toronto's record and reputation in the environmental field" (KPMG 2011). TEO was eliminated as a stand-alone department in 2013, but its activities and staff were explicitly incorporated into the new Environment and Energy Division (EED) (EED 2013). It is unclear how influential the KPMG report was in this decision.

The formation of the EED in 2013 recreated some of the centralization of Environmental Services unit in the late 1990s, and the broad mandate of the EPO in the late 1980s and 1990s. Where the EPO had significant organizational capacity, its insulation from political and administrative influence was limited by its position within the public health division. In contrast, TEO had somewhat more limited organizational capacity, but its position outside of other formal divisions insulated it from outside influence. As a free standing division with its own internal organizational structure of issue-specific offices, the EED is more independent than its predecessors: it has both organizational capacity and insulation from political and administrative influence. As directed by Council, the EED is responsible for the promotion of sustainability within both corporate and community spheres, to undertake research, policy and program development, and to collaborate with internal and external stakeholders (EED 2013). Moreover, the EED is tasked with facilitating sustainability programs controlled by other divisions, such as environmental health programs in the Public Health division, and recycling programs at the Solid Waste Management Division (EED 2013).

7.2.2.2   The Toronto Atmospheric Fund

The history of the Toronto Atmospheric Fund (TAF) provides a stable counterpoint to the twists and turns described above. TAF is an arms-length think tank with an explicit mandate to

support the City of Toronto in its climate change mitigation goals and has been described as "the world's first municipal agency designed to innovate solutions to climate change, reduce greenhouse gas emissions, and improve air quality" (Cahill n.d., 1). The creation of TAF was heavily influenced by former Councillor Tony O'Donohue. In 1991, O'Donohue convinced the City to ensure the independence of TAF by establishing an endowment fund from the proceeds of the sale of an unused city property (O'Donohue 2012, Interview; O'Donohue 2005, 166).

TAF is more insulated from political and administrative influence than the other divisions and working groups described above. This comes in part from its unusual position of being governed by provincial legislation, but accountable to the City of Toronto Council which appoints its board members (Ontario 2005b). The organization's $23 million endowment from City of Toronto also provides some insulation from political and administrative interference. TAF also differs from traditional departments in that it is authorized to raise money in a number of ways that are not limited to direct City funding (Ontario 2005b, s.5).

TAF also has significant organizational capacity. Its seven core staff achieve their objectives using three primary strategies: research, direct program delivery, and funding. They describe the role of TAF as "de-risk[ing] ideas so that staff and public officials at City Hall can properly evaluate the technical and financial feasibility of a particular project [or] policy (Jones 2012, Personal Communication). Staff are engaged in research programs and pilot projects that span multiple departments and encourage the adoption of projects and policy to reduce both corporate and community GHG emissions. Projects include piloting technologies to track vehicle usage and fuel efficiency within the city fleet, a program to install motion-sensor lighting in City parking garages, and the Green Condo Loan program to promote green building by private sector developers using an innovative funding structure (Jones 2012, personal communication).

356

Councillor Glenn De Baeremaeker argues that between its establishment in 1991, and the election of Mayor David Miller in 2003, TAF built a reputation for having a strong "ethic, and a legitimacy and a knowledge base and a set of relationships" that led to them playing an important role in the development of climate policy at the City of Toronto (De Baeremaeker 2012, Interview). He argues that because of this, TAF had the answers when Miller asked the questions.

The above has demonstrated that the environmental departments within the City of Toronto administration have been both long-standing and varied in their origins, evolution, and independence. The various incarnations of the current EED described above (the EPO, Environmental Services, and TEO) were formed and reformed over the course of three decades during the tenures of mayors of all political stripes. Moreover, these changes were prompted by different factors in each case, including electoral calculations, provincially-mandated municipal amalgamation, and administrative politics. In the case of TAF, the influence of an environmentalist Councillor was an important factor in the organization's creation and establishment of its endowment. However, TAF has considerably more independence than most municipal environment departments, both within the City of Toronto and in other municipalities. After its creation, the support of environmentalist councillors or administrators was not necessary for its survival or influence. While this evidence cannot shed light on whether there is a causal relationship between the departments and climate policy, it decreases the likelihood that the observed relationship is spurious because another variable is separately causing both the departments and the climate policy. The variation in the origins and operations of the environmental groups within the City administration also decreases the likelihood that such

departments are just a manifestation of an antecedent variable, such as policy champions or political economy factors.

7.2.3   Champions of Climate Change Mitigation Policy

Consistent with the hypothesis, there have long been individual politicians interested in promoting environmental and climate change issues at the municipal level in Toronto. One of the earliest was long-term Councillor Tony O'Donohue. O'Donohue's interests and the causes he championed spanned a broad spectrum of environmental issues and he acted as an important catalyst of environmental and climate change policy at the City of Toronto. Trained as an engineer, O'Donohue was an environmental advocate from his first days at City Hall, having begun to think about these issues while working on residential development projects (O'Donohue 2012, Interview). At the time there was no environmental policy at the City, but he pushed for the consideration of environmental issues in other decisions and was instrumental in the creation of Pollution Probe, an environmental NGO that continues to fight for reduced pollution – particularly in urban areas (O'Donohue 2012, Interview).

Inspired by the proceedings of the Changing Atmosphere Conference held in Toronto in 1988, O'Donohue spearheaded the push to create the first municipal by-law to regulate the sale and manufacture of ozone-depleting substances. Just a few years later he pushed the City to create the Toronto Atmospheric Fund and ensure its financial independence from Council through the creation of an endowment fund (O'Donohue 2012, Interview; O'Donohue 2005, 166). Tony O'Donohue actively championed environmental causes and climate change policy in particular. He has been described as "the true pioneer of environmental issues in municipal politics in Canada" (Cahill n.d., 1).

Councillor Jack Layton was another staunch environmental advocate at the municipal

level in Toronto. Layton, who would later gain national prominence as leader of the federal New

Democratic Party (NDP), served on either the City of Toronto or Metro Toronto councils almost

continuously from 1982-2003. In the late 1990s he was the Chair of TAF, and is described by

Kate Davies, founder of the Toronto EPO, as "a towering figure" (Davies 2012, Interview).

Climate change and the environment were key features of Layton's tenure as City Councillor

(Hartmann 2012, Interview), particularly at the time of amalgamation (Campbell 2012,

Interview).

Mayor David Miller, in office from 2004-2010, made municipal climate change action a

constant theme throughout his mayoralty. Miller championed all of Toronto's climate change

initiatives during his seven year tenure and served as Chair of the C40 group: an international

organization made up of the mayors of major global cities committed to reducing greenhouse

gases (C40 Cities 2011). He spoke at the 2009 Copenhagen climate negotiations about the urgent

need for city action on climate change: "There's no such thing as going too fast while national

governments are bargaining over emissions cuts" (Woods 2009). When Miller announced his

resignation as mayor in late 2009 and later after he left office in 2010, the Toronto Star argued

that the city had made significant advances in environmental policy, becoming a "global leader

in municipal environmental initiatives" (*Toronto Star* 2010) and "perhaps the most

environmentally progressive municipality in North America" (*Toronto Star* 2009).

Miller was supported on Council by a number of environmentalist and left-wing

councillors. Of these, Councillors Glenn DeBaeremaeker was the Chair of the Public Works and

Infrastructure Committee from 2006-2010 and Paula Fletcher was the Chair of the Parks and

Environment Committee in the same period. DeBaeremaeker in particular has long-standing

environmental credentials. He first gained public attention through his advocacy and campaigning for the conservation of the Rouge Valley. He then parlayed this publicity into a seat on Toronto City Council and has been a long-time advocate of environmental initiatives, including conservation, climate change, and cycling (DeBaeremaeker 2012, Interview). Paula Fletcher won Jack Layton's seat on Council when he left municipal politics to become the leader of the New Democratic Party (NDP) in 2003. Her left-wing credentials were solidified when her candidacy was endorsed both by the NDP and Layton himself. In addition to her role as Chair of the Parks and Environment Committee, where she presided over the adoption of the City's climate change action plan and its climate change adaptation strategy, Fletcher had significant political influence as a member of David Miller's Executive Committee.

The presence of environmental champions on Council supports the hypothesis that policy champions facilitate the adoption of climate change policy, but is not sufficient to confirm it. The specific actions of individuals in support of particular climate policies are explored below.

7.3   Individual Policy Areas

For much of the remainder of this chapter I explore the process of climate change mitigation policy development and adoption in the areas of landfill gas management, cycling infrastructure, fleet management and building standards. This allows me to test the theories of political economy factors and independent environment departments against the alternative hypotheses.

7.3.1   Landfill Gas Capture

In March 1978 a methane gas explosion destroyed a house near London, Ontario after gas migrated there from a nearby landfill (*Globe and Mail* 1978). This and other methane explosions Southern Ontario sparked a debate about the safety of landfills, the siting of new development,

360

and the responsibilities of municipalities – as landfill owners – for their care. In the late 1970s "the standard solution [for reducing the risks of explosion due to methane emissions from landfills was] to install a venting system to remove the gas and emit into the air" (*Globe and Mail* 1979). While this strategy mitigated the risks of methane explosions, it did not reduce greenhouse gas emissions – methane is 21 times as powerful as carbon dioxide in terms of its effect on the climate – or unpleasant odours. In response to odour complaints from residents near the Beare Road landfill in Scarborough, in 1978 Metro Toronto installed the region's first landfill gas (LFG) collection and flaring system (Jefferson 1978).[126]

Several other Metro Toronto landfills were subject to odour and health complaints from nearby residents. In 1985, after residents of Pickering objected to the Brock West landfill for these reasons, Metro Toronto announced that they were planning an LFG collection and flaring system to mitigate concerns (*Globe and Mail* 1985). George Kelly, Metro's assistant director of refuse disposal, suggests that "politically, it became a pressure problem" (Donville 1987). Two years later, with the project 60% complete, the provincial Ministry of Environment determined that the Brock West landfill emits "offensive odours", but Metro found that there were nearly 50% fewer complaints about the smell compared to 1986 (Israelson 1987). In 1987 Metro expanded the scope of the project began accepting bids for the region's first LFG utilization scheme at the Brock West site (Donville 1987).

---

[126] While this dissertation focuses on the decisions of lower- and single-tier municipalities, in this case the waste management decisions of Metro Toronto – the upper-tier municipality – are relevant because in 1998 the provincial government amalgamated Metro Toronto with its constituent lower-tier municipalities to form what is now the single-tier municipality of the City of Toronto. Decisions about solid waste made by the City of Toronto post-1998 were made in the context of a landscape created by the Region.

In 1988 Metro Toronto announced that Eastern Power would build a power plant and use the collected LFG to generate about 20,000 continuous kW of electricity. The result would be an increase in the amount of gas burned (90%, up from 50% prior to utilization), and revenues of about $150,000 per week. Under the agreement, Eastern Power would pay Metro Toronto for the LFG used and would share 25% of the profits (Armstrong 1988). The Brock West utilization project came online in the fall of 1990. Subsidized by the province of Ontario, it was expected to operate for twenty years (Girard 1990). This marked the first mention of greenhouse gases and climate change in media reports, which until this point had focused on odours, effects on health, and safety risks. Ziyaad Mia, program officer for non-utility generation with the Ontario energy ministry is reported to have said that "the net effect [of the Brock West cogeneration plant] is positive for the greenhouse effect and global warming" (Girard 1990).

Utilization projects at other Metro Toronto landfills continued to be built in the 1990s, including the Keele Valley landfill in Vaughn, ON (Barber 1997) and the Beare Road landfill in Scarborough, ON (Taylor 1992).[127] All three LFG utilization projects benefited from decisions by Ontario Hydro. In 1986 Ontario Hydro changed its rate structure to pay outside electrical producers the same rates as for electricity produced at its own facilities (Potter 1992), and in 1994 the utility committed to spend $55 million over five years to buy power from renewable sources, including LFG cogeneration (Westell 1994).

In 1997 Metro Toronto announced that it had reduced GHG gas emissions by 7.8 million tonnes over the previous six years, which according to ICLEI, was "more than any other city in the world" (Barber 1997). Where critics attributed the reduction to the new nuclear reactors and

---

[127] The Keele Valley utilization plant opened in 1995, and the Beare Road plant commenced operations in 1996.

economic recession, local government policymakers suggested that the success was the result of the actions of the Toronto Atmospheric Fund and its $20 million endowment. However, the *Globe and Mail* argued instead that since 6.2 million tonnes of the CO_2e emissions reductions resulted from the landfill gas utilization plants at Brock West and Keele Valley landfills, this was the more persuasive explanation (Barber 1997). According to Anne Mitchell, then director of the Canadian Institute for Environmental Law and Policy, the combination of revenue generation, pollution mitigation and greenhouse gas reductions had made LFG capture and utilization "a no-regrets measure" (Barber 1997).

Despite these successes, waste management remained "one of the most politically sensitive issues of the day" (Valpy 1989). Early controversies about safety risks seemed to dissipate, only to be replaced by concerns about odours,[128] noxious chemicals,[129] and most prominently, the question of how to dispose of waste once the regions landfills reached capacity. The debate raged over whether the region should build incinerators or seek new landfill sites. Although it predated the 1998 municipal amalgamation, this debate was one of the major issues facing the new City of Toronto as the Keele Valley landfill was mandated to close in 2002. This debate came to a head in the autumn of 2000 when, unable to site a new landfill in Ontario, the City decided to contract 100% of waste disposal to a private landfill site across the border in Michigan from 2003-2010. Public opposition to incineration and the high cost of landfilling led to the creation of a waste diversion task force. In 2001, City Council accepted the task force's

---

[128] A class action suit was launched against Metro Toronto due to odours from the Keele Valley landfill site. The suit went all the way to the Supreme Court before being dismissed.

[129] Despite flaring at Keele Valley landfill, the provincial government found that the site emitted vinyl chloride gas. A government scientist is reported to have said that "the only thing that makes this dump remotely safe is the fact that most of that gas is incinerated" (Barber 1995).

recommendation for "the City to achieve waste diversion goals of 30%, 60% and 100% by 2003, 2006 and 2010 respectively" (Toronto SWMS 2005, 6). At this point attention shifted from the debate about incineration to a focus on waste diversion – including organics collection (green bin), single-stream recycling, and increasing diversion from multi-family residences and the private sector (Toronto SWMS 2005). The LFG utilization projects in all three now-decommissioned landfills continued, but were far from the main focus of the Solid Waste Services Division.

In 2006 the City of Toronto purchased the Green Lane Landfill near London, ON, and when the contract with the Michigan landfill expired in 2010, the City began to ship its waste there. This landfill came with a ready-made LFG collection system (Rusk 2006), and in March 2008, Council authorized staff to negotiate a contract for cogeneration at the site that would replace a plans for a cogeneration facility at the Thackeray Landfill that had closed in 1978 (Toronto City Council 2008, Minute M17.8). In 2001, Toronto Hydro had announced that they were planning to spend $3 million to build the Thackeray facility, because "there [was] a market for green energy" and although "it [was] a small project, it [took] a big bite out of the problem [of GHG emissions]" (Nelson 2001). Councillor Jack Layton argued that this was "the largest initiative by the megacity council [to date]" (Nelson 2001). However, by 2002, the project had been put permanently on hold, purportedly because it was no longer profitable because of the provincial government's mandated electricity rate freeze (Lewis Stein 2002).

The evidence presented above is consistent with claims that political economy factors shape climate policy at the municipal level. In this case, most of these factors led to positive incentives to adopt the policy: the LFG capture programs beginning in the late 1970s addressed a high-profile issue and alleviated vocal opposition from residents (although, with the exception of

364

the Beare Road site, these were not Toronto voters); they also led to increased revenue for the

City and provided opportunities for private economic actors to profit. Greenhouse gas emission

reductions were not explicitly addressed as an issue here – except as a happy by-product of the

process. The only project that was explicitly framed in terms of greenhouse gases – the

Thackeray landfill site – was the one that never came to fruition.

Figure 7.2 Landfill Gas Capture and Public Attention to Climate Change in Toronto
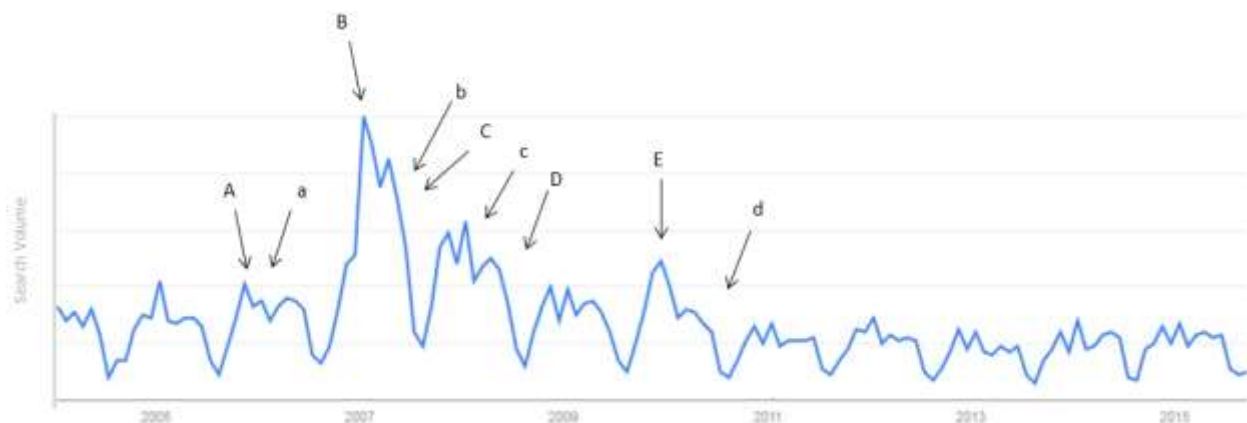
Search terms: "climate change" + "global warming"
Municipal Events: a = Purchase of Green Lane Landfill; b = Adoption of Toronto's *Climate Change, Clean Air and Sustainable Energy Action Plan*; c= Authorization for negotiation of contract for Green Lane Landfill cogeneration facility; d = Rob Ford becomes Mayor
Provincial, Federal and International Events: A = Enactment of *City of Toronto Act 2006*; B = Announcement of federal *Turning the Corner* plan; C = Adoption of Ontario's climate change action plan; D = Announcement by Ontario government that all large landfills must have LFG capture systems by 2010; E = COP 15
Data source: Google Trends. See Figure 7.1 for methodological notes on this data.

In the post-2004 period, public attention to climate change does not seem to have been an

important factor in the development and adoption of landfill gas capture policy in Toronto (see

Figure 7.2, above. The decision to negotiate a cogeneration facility at the Green Lane Landfill

came after both the municipal and the provincial climate change action plans, and before the

provincial requirement that large landfills have LFG collection systems (this was not relevant to

the Green Lane site because it already had a system when it was purchased by the City), and this

was at a period of relatively high attention. However, it was two years after the purchase of the

site and a year after the highest peak of attention in 2007. If the decision was closely linked to attention to climate change, I would have expected the contract negotiations to have been authorized at that time.

Cost was a particularly important consideration. The prospect of profit drove the installation of cogeneration facilities, and the possibility of low electricity rates discouraged it. In 1990 as the Brock West facility prepared to open, the owner of the company operating the power plant argued that environmental benefits are not enough to justify this kind of project for the local government: "If you clean up the environment and provide hefty royalties you'll keep everybody happy at the party" (Girard 1990). Additionally, the provincial utility's rate structure was also important for the development of LFG electricity production. Changes in 1986 made it potentially profitable for private companies and commitments to renewable energy in 1994 reinforced this. As the *Globe and Mail* noted in 1997, the owners of the LFG power plant are not "do-gooder[s]. They are happy to take credit for environmental success, and they deserve it. But their prime motivation is financial: Reducing greenhouse gases is good business" (Barber 1997). However, when the Ernie Eves government capped electricity rates in the early 2000s, this dampened enthusiasm because selling power to the provincial utility would be much less favourable.

There is little to no evidence that environmental departments within Metro Toronto or the City of Toronto contributed to the outcomes in this policy area. This is inconsistent with the theory put forward in Chapter 2. While the political economy factors generally encouraged policy adoption, and it could be argued that independent environment departments were not necessary, in the case where they acted as a barrier –the Thackeray landfill project – the environmental departments did not intervene and the project did not go forward. Likewise this

366

case is inconsistent with the alternative hypothesis regarding the influence of individuals: there were no policy champions that were prominent in facilitating landfill gas capture policy at any point and particularly not in the case of the Thackeray project.

The evidence is also inconsistent with the other alternative hypotheses that either the electoral system or intergovernmental networks are important influences on the adoption of climate change policy. There is no evidence that councillors for the wards most closely affected by landfills (particularly those in Scarborough near the Beare Road landfill) were central to decision-making processes surrounding LFG capture and utilization. Waste management is a city-wide issue about which Council has been able to come to joint (and sometimes difficult) decisions. It seems plausible that this is *because* waste management and its environmental impacts affect all wards and so parochial behaviour is not advantageous in this context. This is inconsistent with explanations that see at-large electoral systems as the mechanism through which municipal politicians achieve city-wide vision and interests. The nature of the problem itself seems to lend itself to that kind of perspective, regardless of the electoral system.

There is also no evidence that participation in intergovernmental climate networks was the cause of the implementation of LFG systems. The early installations pre-date discussions of climate change and the utilization projects of the early- to mid-nineties were among the first in North America. Furthermore, early studies showing the feasibility and potential profitability of LFG utilization in the region also predate intergovernmental action on climate change at the local level. The first pilot project was conducted near the future site of the Green Lane Landfill in 1979 (Jenish 1979). Moreover, official statements of Toronto's achievements in terms of GHG reductions de-emphasize the role of LFG capture and utilization (Barber 1997), further

367

weakening the claim that climate change-related networks are responsible for the development of the projects.

However, as noted above, there is some evidence that provincial intervention was important in the decisions to install LFG capture and utilization systems. Provincial intervention came in the form of regulation of the price that the provincial utility was willing to pay for power generated from private and renewable sources, as well as $3.4 million in subsidies provided to the Brock West project (Girard 1990). Moreover, in 2008 the Ontario government made it mandatory for all large landfills to have LFG collection systems. For obvious reasons this had no effect on decisions made up until that date, it may explain the 2008 decision to shift focus from the Thackeray landfill to the new Green Lane Landfill, as closed landfills were not subject to the new provincial regulation (Ontario 2008).

7.3.2   Green Fleet Policy

Green fleet policy refers to efforts to increase fuel efficiency and otherwise reduce pollution from the automotive vehicles owned by a municipality. As discussed elsewhere in this dissertation, I expect that most cities will have some type of green fleet policy as such policies – even limited ones – are likely to lead to cost savings for the local government due to their focus on fuel efficiency. Green fleet policies are packages of initiatives that may be limited to anti-idling recommendations or the purchase of a demonstration hybrid vehicle, but could also be extensive in scope, incorporating, as in Toronto, the use of alternative fuels, funds to subsidize higher initial capital costs for client departments, accelerated schedules for vehicle replacement, regulations governing the purchase of hybrid and electric vehicles, and studies and pilot projects to test new technologies.

The City of Toronto's Fleet Services division is in charge of managing the vehicle and equipment needs of the other City divisions. Like Winnipeg's Fleet Management Agency and Vancouver's Equipment Services department, Fleet Services sees other divisions as clients and seeks to serve their interests. Since 2000, Fleet Services had aimed to "become more efficient while maintaining operational needs" (Chiaravallotti 2004, 9). The City's first foray into alternative vehicles followed the adoption of the *Fleet Services Future Plan* (2001). In 2001, the City of Toronto piloted three of hybrid-electric cars and purchased a number of natural gas powered vehicles. The practice of "greening the fleet" was transformed into a formal policy in 2004 with the development of the City's *Green Fleet Transition Plan* (Chiaravallotti 2004). This plan drew heavily on the *Environmental Plan* (2000), and aimed to reduce both greenhouse gases and criteria air contaminants that contribute to smog and other air quality concerns. Although it was expected that the plan would lead to decreased operational costs through decreased fuel use and other savings, the increased capital costs associated with the purchase of hybrid and other non-conventional vehicles were expected to outweigh these savings "for the foreseeable future despite incentives and rebates from other levels of government" (Chiaravallotti 2004, 17), amounting to net costs of about $1.8 million.

This plan was followed by the *Green Fleet Plan,* 2008-2011. In contrast to the 2004 version of the policy, the implementation of this plan was expected to lead to net savings of over $2 million. The 38 initiatives included in this phase were more extensive than in the first phase, including specific targets for the number of new green vehicles purchased in each year of the plan, testing of new technologies, increased use of alternative fuels, and improved maintenance and management practices.

In preparation for a third phase of the policy that was originally planned for 2012-2015,

Fleet Services commissioned a study to determine where efficiencies could best be made.[130] The

report gives specific recommendations for actions, including information about the relative ease,

cost, and expected return for each. Following an inventory of the entire fleet, the report's main

recommendation was to improve "utilization" of the fleet – in particular to retire older underused

vehicles and to encourage greater use of the more efficient vehicles. The report conservatively

estimated that implementation of these recommendations would lead to net savings of between

$110,000 and $765,000 (Breault et al. 2012, 4).

There is little evidence to suggest that either the public or economic actors were aware of

or interested in the City of Toronto's green fleet policies. There were few official press releases

on the subject and it was rarely mentioned in the mainstream media.[131] Official statements were

limited to announcements of the first phase in 2004, and some purchases of alternative fuel and

hybrid vehicles (2008-2010). One recurring green fleet initiative was announced every year – the

Green Fleet Expo. This tradeshow-like event was originally co-sponsored with the City of

Hamilton, and now has other sponsors. However, the Green Fleet Expo was not a focus in the

media. The first allusion to Toronto's green fleet policy in the mainstream media was in 2001,

when the city made its first purchases of hybrid vehicles. The green fleet policy was next in the

media in 2008 when the second phase of the policy was unanimously passed by Council. There

was some media attention paid to particular elements of the policy – in particular the proposal to

---

[130] No 2012-2015 plan was created. The next plan was the 2014-2018 Consolidated Green Fleet Plan that incorporated the fleets managed by Fleet Services, Emergency Medical Services, Toronto Fire Services, Toronto Policy Service and Toronto Transit Commission.

[131] I searched the Canadian Newsstand Complete database for articles from the Globe and Mail, National Post and Toronto Star to 2012.

ban city employees from using drive-thrus, and the purchase of new electric ice resurfacers.[132] There was also some opposition expressed with regard to the Toronto Transportation Commission's (TTC) purchase of hybrid buses.[133] In 2009 an environmental group, the Toronto Environmental Alliance (TEA), reported that it counted the Green Fleet Plan as one of the City's environmental successes. Overall, review of media shows little attention to the City's plans for the environmental transportation of its fleet. In particular, with the exception of the drive-thru ban, no interest groups or economic actors expressed support or opposition in the period leading up to the plan's adoption.

Figure 7.3 Green Fleet Policy and Public Attention to Climate Change in Toronto
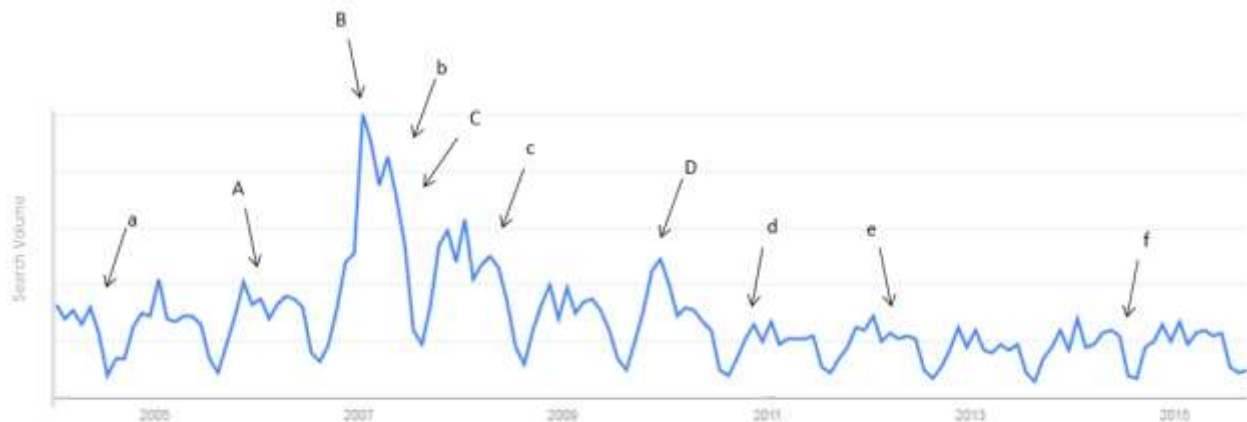
Search terms: "climate change" + "global warming"
Municipal Events: a = Adoption of G*reen Fleet Transition Plan*; b = Adoption of Toronto's *Climate Change, Clean Air and Sustainable Energy Action Plan*; c = Adoption of *Green Fleet Plan (2008-2011)*; d = Election of Mayor Rob Ford; e = Receipt of consultant report for 2012-2015 plan; f = Adoption of *Consolidated Green Fleet Plan (2014-2018)*
Provincial, Federal and International Events: A = Enactment of *City of Toronto Act 2006*; B = Announcement of federal *Turning the Corner* plan; C = Adoption of Ontario's climate change action plan; D = COP 15
Data source: Google Trends. See Figure 7.1 for methodological notes on this data.

---

[132] Stories about replacement of ice resurfacers, which had been previously supplied by Zamboni, were more novelty pieces than indications of serious interest in the City's green fleet activities. However, they captured the imagination of the public as well as politicians such as Councillor Glenn De Baeremaeker (De Baeremaeker 2012, interview).
[133] While the TTC is owned and operated by the City of Toronto its fleet decisions are not made by Fleet Services. Fleet Services helped the TTC and other independent City agencies to create their own green fleet plans until these were incorporated into the 2014-2018 Consolidated Green Fleet Plan.

However, public attention to climate change was not an important consideration for policymakers. None of the major elements of the green fleet strategy were adopted at high points in public salience (see Figure 7.3, above). One possible exception is the *Green Fleet Plan (2008-2011)* which was developed in 2007 when there was a high level of attention to climate change.

The Toronto Atmospheric Fund also played an important role in the development of Toronto's green fleet policies, primarily as a funder or facilitator of pilot projects. One example is their role in promoting the use of electric vehicles in the fleet. Through TAF's FleetWise program, Fleet Services was able to access information about how to incorporate zero-emission vehicles, funding for installing data-logging devices on individual vehicles in order to determine whether they were good candidates for replacement with zero-emission vehicles, and funding for the E3 Fleet study, noted above, that acted as a guide for the development of the 2014 Consolidated Fleet Plan (Pietschmann 2012, Interview).

Political champions were important to the success of green fleet policy in Toronto. This was demonstrated by the changes that occurred after the 2010 election when Rob Ford became mayor and appointed like-minded councillors to influential positions. Pietschmann noted the change in key politicians and emphasized the importance of these individuals' commitment to municipal climate change policy to the implementation and long-term success of the green fleet policy.

Gerry Pietschmann cites the influence of Councillor Glenn DeBaeremaeker, Chair of the Public Works and Infrastructure Committee from 2006-2010, and Councillor Paula Fletcher, Chair of the Parks and Environment Committee in the same period, as central to the success of the City's green fleet policy. One way in which they did this is by requiring that Fleet Services produce annual reports updating the committee about progress made and indicating planned

372

actions for the coming year (Pietschmann 2012, Interview). In contrast, the Ford-appointed replacements of DeBaeremaker and Fletcher (Denzil Minnan-Wong and Norm Kelly, respectively) were not committed to climate change mitigation, and that Fleet Services was no longer required to produce annual reports. In an interview conducted in early 2012 Pietschmann suggested that it would be much more difficult to have a third phase of the policy adopted (Pietschmann 2012, Interview).

As former fleet manager, Gerry Pietschmann was also a champion of green fleet policy. He says he came to work for the City in 2006 because the values of the organization aligned with his. He minimizes his own role as a policy champion, preferring to credit Mayor David Miller and his supporting councillors (Pietschmann 2012, Interview); however, fleet services staff argue that Pietschmann's role as fleet manager was critical:

> Without a fleet manager who sees the value of green, of environmental benefits for fuel reduction, for reducing costs – if the fleet manager didn't value that, we wouldn't have had as strong a green plan. What we took to Council wouldn't have been as strong if the fleet manager didn't see the value of it. (Gingrich 2012, Interview)

Taken together evidence from the case of Toronto's green fleet policy is consistent with main hypotheses. TAF's support for green fleet policy through research and funding helped to push the City of Toronto towards an extensive set of relatively high impact green fleet policies, despite some stumbling blocks that were thrown up by factors such as the cost of biodiesel. However, the evidence is also consistent with the alternative hypothesis about policy champions. Garry Pietschman was a critical figure in this domain and the most important limiting factor was the support of councillors. When supportive councillors chaired the Public Works and Infrastructure and Parks and Environment Committees – DeBaeremaeker and Fletcher,

respectively – the policy advanced rapidly. When they were replaced by councillors that did not support climate change mitigation, action stalled. This is consistent with the theory that political and bureaucratic policy champions increase the probability of the adoption of high impact climate policy.

The evidence from this case is also inconsistent with other alternative explanations. The influence of environmentalist councillors suggests that neither hypothesis regarding electoral systems applies here. Not only were environmentalists elected and placed in positions of influence (which is contrary to the expectations of the hypothesis about ward systems), they demonstrated attention to a city-wide issue that has little traction at the ward level (also contrary to the expectations of the hypothesis). Likewise, the councillors that replaced them slowed the process of green fleet policymaking, but did not do so due to ward-based concerns. Contrary to the expectations of the hypotheses about provincial influence, the Ontario government provided no guidelines or regulations with regard to municipal fleet management, and their support was not influential in the green fleet decisions made by Fleet Services. The City of Toronto has also been a leader in green fleet policy and has worked to spread knowledge about green fleet policy to other municipalities. Moreover, Fleet Services was supported in their efforts by research and funding from TAF, rather than intergovernmental networks. This is inconsistent with the hypothesis that climate policy is the result of funding and policy learning from participation in intergovernmental climate organizations.

7.3.3   Cycling Infrastructure

The first cycling infrastructure was built in the City of Toronto in the 1970s as part of Metro Toronto's plan to build 124 km of off-street paths by 1977. These lanes were seen to serve

a primarily recreational purpose. In 1975, The City of Toronto established the Toronto City

Cycling Committee (TCCC) (Macbeth 1999, 38) and passed a policy resolution that

> Council recognizes that the bicycle, as an integral and efficient form of transportation and
>
> as a means of recreation, can make a significant contribution to the quality of city life;
>
> therefore, it is the policy of council to implement programs that will promote and
>
> facilitate greater and safer use of the bicycle. (Lucas 1998)

When Metro Toronto terminated the bicycle infrastructure plan in 1982 after only 84km had

been built, of the member municipalities only the City of Toronto objected.

In the 1980s and 1990s cyclist safety was a major issue and bicycle advocates began to

demand on-street lanes as a way to reduce the number and severity of collisions between motor-

vehicles and bicycles (Neumann 2008). These activists were justified in their concerns. In 1996,

after two cyclists were killed in one week, the regional coroner conducted a study of cycling

accidents in Metro Toronto. In his report, he notes that there were nearly 13,500 collisions

between cars and bicycles between 1986 and 1996 in the region of Toronto, of which 38 were

fatal. The majority of the fatalities took place in the City of Toronto (Lucas 1998). In 1999

cycling was found to be more dangerous in Toronto than in other Canadian cities (Aultman-Hall

and Katenecker 1999).

The City of Toronto's first on-street bicycle lane was installed in 1979, on the

recommendation of the TCCC (Macbeth 1999, 38). However, despite the enthusiasm of this

committee and Mayor John Sewel, the next lanes were not installed until the early 1990s.

Between 1990 and 1991 three new lanes were built, including a project that took lanes away

from motorized traffic on either side of the Bloor Street Viaduct. Together, these added up to 8

km of on-street bicycle lanes (Macbeth 1999, 38).

The 1990s were a study in contrasts between the region of Metro Toronto, which was made up of the municipalities that would be amalgamated into the City of Toronto in 1998, and the former City of Toronto. Where the region resisted building cycling infrastructure because cyclists should not be privileged above other road users (Neumann 2008, 9-10), the old City of Toronto's efforts to create cycling infrastructure were relatively successful. Bicycle trips to the central area increased by 75% between 1987 and 1993 (Pucher et al. 1999, 641), in 1993 bicycles were "a noticeable presence" in downtown Toronto with about 17,000 riders per weekday, and by 1998 the City built had built an additional 40 km of lanes in the downtown core (Macbeth 1999, 39). Moreover, although not all of the City's early efforts to build cycling infrastructure were successful – for example, the City installed cycling lanes along a 2.8 km stretch of the College and Carlton Street corridor in October 1993, but retailers complained about the loss of on-street parking and City Council decided to remove the lanes in the most controversial area (Macbeth 1999, 44) – in general the new lanes increased cycling volumes and had minimal impacts on motor vehicle traffic. Macbeth (1999) argued that the City considered the effect on traffic to be "an acceptable trade-off for the benefits that arise from encouraging cycling" (Macbeth 1999, 46).

The difference in priorities between the central and suburban areas would reappear throughout the next decades as the new amalgamated City of Toronto sought to implement cycling strategies and improve cycling facilities. In 1999 the City estimated that 62% of households in the amalgamated City owned a bicycle and there were over 939,000 adult cyclists (Toronto 2001, EX1). But where only 18% of cyclists were comfortable riding on major streets in the absence of bike lanes, 54% were comfortable on those major roads with bike lanes. Cyclists also identified on-street bike lanes as preferable to off-street paths (Neumann 2008, 3).

Despite these findings, the ideological conflict continued. Essentially, this was a conflict about whether cycling is a legitimate form of transportation. While the Province of Ontario recognized bicycles as vehicles in 1990, allowing cycling infrastructure to be eligible for provincial transportation funding (Neumann 2008, 9), this neither made bicycle infrastructure a municipal priority, nor led to the construction of on-street lanes that might cause inconvenience for car users.

In 2001 the newly amalgamated City of Toronto adopted the *Toronto Bike Plan*, a 10-year cycling strategy which proposed over 1000km of bicycle infrastructure, including 465km of on-street lanes. The goal was to create a network of north-south and east-west routes spaced two kilometres apart (Toronto 2001, EX2). The plan explicitly acknowledged the upfront costs of installing cycling infrastructure, even over time, and said that the implementation of the plan would require additional funding, staff, coordination within the administration and monitoring of outcomes, but it also suggested that there would be significant benefits of the plan in the long run (Toronto 2001, EX9). This was an ambitious plan that was supported by political champions including Councillors Olivia Chow and Jack Layton. Opponents of the plan included councillors who were concerned about the high cost of the plan (estimated at $70 million) and the potential for an increase in traffic congestion (Neumann 2008, 10-11).

While Council approved the *Bike Plan* and some progress was made towards achieving its goals, in the end the implementation of the strategy fell far short of its promise. Between 2002 and 2007, only 41 km of bike lanes were built, and some of the lanes that were proposed and identified as priorities in 2002 had yet to be constructed. There were multiple barriers to the construction of bicycle lanes in this period. Importantly, many of the factors that the plan itself identifies as crucial were not realized: the Pedestrian and Cycling Infrastructure unit was both

underfunded and understaffed (Neumann 2008, 19-21), and although the City created the Bike

Plan Coordinating Committee, but rather than bringing together the staff directly involved in the

installation of bike lanes, the group was used as a means for the Pedestrian and Cycling

Infrastructure unit to brief other departments that were more peripherally involved (Neumann

2008, 24). Moreover, staff working on roads and bike lanes did not work together, which led to

many missed opportunities for reducing costs and inconveniences by coordinating, for example,

road resurfacing and re-striping projects with the installation of new bike lanes (Neumann 2008,

22).

The approvals system in place from 2002 to 2006 was an important institutional barrier to

the construction of new bike lanes. This did not change after the first, short-lived, reform in

2007. From 2002 to 2006 the local Community Councils reviewed lane proposals within their

boundaries and those that were accepted were sent to City Council for final approval. This

system required the investment of significant time and resources by the Pedestrian and Cycling

Infrastructure unit, and provided two opportunities for councillors to oppose the projects. While

in most cases Toronto city councillors have an unspoken agreement not to interfere in matters in

other councillors' wards, this did not hold in the case of bicycle lanes, especially as they concern

the impact on drivers – either through the loss of a traffic lane or on-street parking (Neumann

2008, 26). Consistent with the pattern established prior to the amalgamation of the City of

Toronto, the three Community Councils representing the suburban wards successfully opposed

many proposals for new lanes, whereas the Toronto-East York Community Council that covers

the old City was more supportive and approved a "proportionally high number of bike lanes"

(Neumann 2008, 26).

Several changes were made in 2007-2008. First, the City "renewed its commitment to complete the Bikeway Network [as outlined in the 2001 Bike Plan] by a modified date of 2012 as part of the Climate Change, Clean Air and Sustainable Energy Action Plan" and dedicated new funding and staff to the project (Neumann 2008, 1). As a result, the Pedestrian and Cycling Infrastructure unit outlined new targets for meeting the bike lane goals by 2012 (Neumann 2008, 17), and decided "to focus on 'easy' bike lanes in wards with supportive councillors" in order to efficiently use their limited staff resources (Neumann 2008, 21). The approvals process was also amended, on the recommendation of the cycling staff, to cut out the Community Councils and instead have proposals initially approved by the Public Works and Infrastructure Committee. The goals of this structural change were to limit the influence of parochial ward-based concerns in favour of city-wide issues, and to be able to present multiple projects at once (Neumann 2008, 30-31).

These changes had minimal effect on the overall success of the implementation of the Bike Plan. Toronto councillors remained largely opposed to the creation of new bicycle lanes, especially if they came at the cost of any inconvenience to motor vehicles. By 2010, at 17km per 100,000 residents, the City of Toronto had fewer kilometres of bicycle infrastructure lanes per resident than any other city in Canada (Toronto Public Health 2012, 52). Moreover, the bike lanes the City did have were described as "poor" by 54% of residents and 64% of cyclists (Toronto Public Health 2012, 52).

With the election of Mayor Rob Ford in late 2010, the construction of new on-street lanes stalled (Mende 2012, Interview). Climate-conscious Mayor David Miller did not run for a third term in 2010, and Rob Ford capitalized on increasing tension between cyclists and motorists – a tension fueled by reports in local media with headlines such as "Mean streets: It's bike vs. car"

(Song 2009) and "Road wars: can cyclists and motorists get along?" (Kalinoswki 2009). Like

other suburban politicians in the City of Toronto, Ford perceived the re-allocation of road space

to cyclists as a "war on the car" – a war which he vowed to end in his first press conference as

mayor (CTV 2010). As mayor, Ford shifted the focus in the Transportation department toward

easing automobile traffic congestion (Mende 2012, Interview). He also appointed like-minded

Councillor Denzil Minnan-Wong as chair of the Public Works Committee, and made clear that

any staff proposal that might lead to an increase in congestion would be rejected.

The appointment of Minnan-Wong was particularly important because as of 2008 the

Public Works Committee was the first veto point in the bike lane approval process. As a result of

these changes, the Transportation department began to prioritize off-street pathways along rail

and hydro corridors over on-street lanes (Mende 2012, Interview), and in some high profile cases

on-street bicycle lanes were removed from downtown streets. While the construction of off-street

paths is consistent with some of the goals of the Bike Plan, it is most helpful in terms of creating

recreational cycling opportunities rather than networks that promote cycling for commuting and

other transportation purposes (Pucher et al. 2011, 465). This switch is also consistent with

concern expressed by some that a focus on off-street paths "can reduce the political impetus to

make the road network more suitable for cycling" (Pucher et al. 1999, 633).

Rob Ford's language and priorities regarding the place of cycling in the City's overall

transportation network are consistent with the views of other Toronto politicians. For example, in

2009, Councillor Karen Stintz (who became the head of the Toronto Transit Commission under

Rob Ford) explained her opposition to the Jarvis Street cycle track as due to the misallocation of

road space:

There's only 130 bikes that they've counted on Jarvis in the morning and 27,000 vehicles during the same time frame and the notion that if you build it they will come I don't think has been tested sufficiently to do what we did in that case and we certainly don't take that approach to transit. (Stintz in Hill 2010, 43)

Like Gordon Price in Vancouver, Stintz further argued that people see the promotion of bicycle lanes as an attack on their lifestyle. Specifically, that

people feel victimized or demonized because they have a car and they don't appreciate that feeling because they are good people living their life in the city that they love and they want to do the right thing. But creating more bicycle lanes and making their lives more difficult is not helping them achieve our shared goal of creating sustainable cities. (Stintz in Hill 2010, 47)

Opponents of bicycle lanes – councillors, Business Improvement Area groups, ratepayers' associations – tended to see them as a drain on economic productivity: lost time due to the congestion that is thought to result from removing travel lanes and lost profit as a result of fewer on-street parking spaces for customers (Hill 2010, 55; Neumann 2008, 26). Advocates of bicycle lanes, in contrast, saw them as tools to *increase* economic output. Supportive councillors, staff, academics, public health officials, and cycling activists suggested that increased access to and use of active transportation facilities can lead to less lost time due to congestion (Toronto Public Health 2012; TCAT 2013), decreased costs for road maintenance, health care, and environmental damage from air pollution and GHG emissions (Toronto Public Health 2013; Hill 2010, 51; Craig 2013, 11-12), and that they are more popular among residents and merchants than their opponents suggested (Sztabinski 2009; Forkes and Smith Lea 2010).

Some cycling advocates argued that councillors opposed to bike lanes took advantage of the public consultation requirements of the Bike Plan "to delay the approval of bike lanes in an effort to avoid confrontation with the electorate, or because they may personally oppose the bike lane project" (Neumann 2008, 34). As Wilson (1980) would have predicted, business groups and ratepayers associations, for whom the costs of bicycle infrastructure are concentrated, were successful in organizing to lobby politicians in opposition to bike lanes. In contrast, cycling groups, for whom the benefits of this infrastructure are diffuse, were much less successful in their lobbying efforts (Neumann 2008, 35).

Bicycle lanes are unlikely to proceed without the support of the local councillor, leading some to make comparisons to policy relating to other forms of transportation, such as roads or transit, in which it would be seen as unacceptable for Council to defer to the will of local councillors (Neumann 2008, 35). Moreover, while cycling staff were enthusiastic about the inclusion of cycling infrastructure in the climate change action plan because it would give them additional tools with which to get Council support (Neumann 2008, 31), this did not seem to make a difference in terms of outcomes – particularly given the election of Rob Ford in 2010 and the shift away from the environment as a policy priority.

Furthermore, councillor opposition to bike lanes was not limited to those routes located in their wards. The reallocation of road space in the downtown has been salient for all councillors. For example, the Jarvis Street cycle track was approved (controversially) in 2009 and installed in 2010. In 2012 Council voted to remove the lane with most centrally-located councillors voting to retain the lane and most suburban councillors voting to remove it. This is consistent with cycling data about the distribution of cycling trips across the City. In 2012, 81% of cycling trips took place in fourteen central wards (Ledsham et al. 2013) and twelve of the nineteen votes opposed

to removing the Jarvis Street lane were cast by councillors from those wards (Toronto City Council 2012). Of this central area, only the councillors from the two Davenport wards voted to remove the lane, and one – Ana Bailao – had previously made statements in favour of retaining the lane (Wang 2014).

With the election of relative moderate John Tory as mayor in 2014 it is possible that there will be a shift back towards a more supportive stance vis-à-vis bicycle infrastructure. However, given the lack of success during Mayor David Miller's term of office from 2003-2010, this seems unlikely to result in major changes. The case of Toronto is consistent with Pucher and his colleagues' assessment of cycling interventions in North America (Pucher et al. 1999): most do not challenge the centrality of motorized vehicles. Despite the positive assessments of early bike lanes and significant evidence that cycling infrastructure does not significantly increase congestion in Toronto any reduction in the convenience of driving "was not considered an acceptable trade-off in the selection of bike routes" (Neumann 2008, 13).

However, as Neumann (2008) argues, if the goal of implanting cycling infrastructure is to reduce dependence on such vehicles (as stated in Toronto's Official Plan and *Bike Plan*), then reducing the convenience of this mode of transportation should be seen as positive. It is precisely the switch away from fossil fuel-powered vehicles towards zero-emitting bicycles that makes the construction of cycling infrastructure a policy that will reduce greenhouse gas emissions.

The struggle of Toronto to install bicycle lanes is consistent with this dissertation's hypotheses regarding the influence of political economy factors. Opposition was based on

concerns about the costs of the projects to the local government,[134] the impact of bicycle lanes on

traffic congestion – and therefore economic growth and productivity, and the concerns of

businesses and business associations due to the removal of on-street parking. There was also

evidence of citizen concern about the issue – both the salience of cyclist-motorist tensions in the

media and direct communication of citizens and ratepayers' associations with City officials.

However, there is little evidence that public attention to *climate change* was an important

consideration. As shown in Figure 7.4, below, both the decision to create the Jarvis Street cycle

track and the decision to remove it were made at times when climate change was of low public

salience.

Figure 7.4 Cycling Infrastructure and Public Attention to Climate Change in Toronto
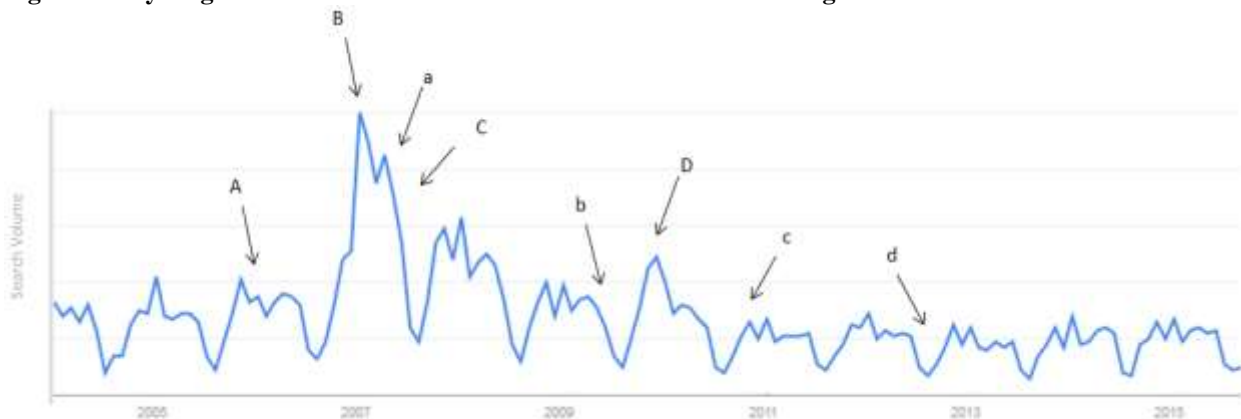
Search terms: "climate change" + "global warming"
Municipal Events: a = Adoption of Toronto's *Climate Change, Clean Air and Sustainable Energy Action Plan*; b = Approval of Jervis Street separated lane; c = Rob Ford becomes Mayor; d = Decision to remove Jervis Street separated lane
Provincial, Federal and International Events: A = Enactment of *City of Toronto Act 2006*; B = Announcement of federal *Turning the Corner* plan; C = Adoption of Ontario's climate change action plan; D = COP 15
Data source: Google Trends. See Figure 7.1 for methodological notes on this data.

---

[134] However, opponents of downtown separated bicycle lanes seem not to have been overly concerned with the cost of the lanes to the local government. The government spent "$280,000 to remove [the] bicycle lanes that had cost…$59,000 to install" (Walks 2014).

The evidence here is inconsistent with the empirical predictions the hypothesis regarding the role of environment departments. Neither TAF, nor TEO was involved in the development, testing, promotion or implementation of cycling infrastructure – except as related to the inclusion of cycling in the climate change action plan. The Clean Air Partnership (CAP) – an arms-length charitable organization with a regional focus that was established in the same enabling legislation as TAF – published a number of reports and studies promoting cycling in Toronto, but did not intervene directly in the process. CAP produced two studies, funded by Transport Canada, showing there could be economic benefits from bike lanes on the Bloor-Danforth corridor and that there was less opposition from merchants than expected (Sztabinski 2009; Forkes and Smith Lea 2010). However, while preferred by cycling advocates, the Bloor-Danforth corridor was not one of the arterial streets for which bike lanes were proposed in the *Bike Plan* (Sztabinski 2009, 5). Thus, while useful in some respects, these reports did not advocate or provide evidence to support the lanes that were actually under consideration. The Public Health Division also produced multiple reports on the benefits of cycling and active transportation more generally (e.g., Toronto Public Health 2012; Toronto Public Health 2013). These reports were supportive of bicycle lanes, including separated lanes, but – due to the mandate of the organization – emphasized the economic benefits that would result from avoiding accidents and disease. Since these benefits accrue mainly to the provincial government in terms of reduced costs in the health care system, this reasoning may not have resonated with staff and politicians at the City. Certainly they were not a major part of the formal debate.

Unlike for the other issue areas explored in this chapter, there is no evidence that policy champions were particularly influential here. While early champions of the issue – Councillors Jack Layton and Olivia Chow – were successful in moving forward the *Bike Plan*, they left City

385

Council for federal politics in 2003 and 2006 respectively. Environmentalist councillors, including Councillors Glenn DeBaeremaeker, Gord Perks and Mike Layton, have supported cycling policy but they have been unable to create a broad enough coalition to overcome the opposition of councillors critical of bike lanes. Staff in the Pedestrian and Cycling Infrastructure Unit, including Manager Daniel Egan, have insufficient influence to change the overall course of cycling policy in the city. For example, while they may be able to facilitate coordination within the Transportation Services Division, direction would be needed from the General Manager of the division to "overhaul the way in which cycling infrastructure is considered by all staff" (Neumann 2008, 25). One way that staff in this division have been somewhat successful in shaping the outcomes of bike lane proposals is to limit public consultation on individual lanes – instead of consulting extensively for all proposals they consult more for more controversial lanes and less for less controversial lanes with the goal of receiving "more limited useful feedback from affected residents and business owners and to minimize staff resources spent on consultation" (Neumann 2008, 39).

In a move also designed to minimize consent and save staff time, cycling staff and their allies on Council made a conscious decision in 2008 to prioritize bike lane proposals in wards supportive councillors (Neumann 2008, 33). While strategic, this approach is inconsistent with the hypothesis that policy champions are responsible for the adoption of climate policy. Moreover, John Mende, Director of Transportation Infrastructure Management and potential policy champion, did not seem distressed by the shift to prioritizing traffic congestion and off-street paths after the election of Rob Ford, noting that reducing congestion reduces idling time and therefore greenhouse gas emissions (Mende 2012, Interview).

The evidence presented in this section is also inconsistent with alternative hypotheses that emphasize membership in intergovernmental municipal organizations or provincial government influence. However, it provides mixed support for the claim that the single member plurality electoral system prevents climate change policy. First, Toronto is a leading member of multiple local level intergovernmental climate change organizations including C40 Cities and Partners for Climate Protection. If membership in such organizations was a determinant of climate change policy in this area – because of either learning or the availability of resources – we should have observed more success in the installation of bicycle lanes. Mayor David Miller was the head of C40 Cities, and staff and politicians were not lacking in knowledge about lane construction – either in general or in the particular case of Toronto. Moreover, while funding was one issue that delayed the implementation of the *Bike Plan*, many cite the structure of the approval process as the most important obstacle to the construction of bicycle lanes (Hill 2010, 18; Neumann 2008, 20).

Some actions of the provincial government helped to facilitate the installation of bicycle lanes in Toronto – for example, the recognition of bicycles as vehicles and a legitimate mode of transportation in 1990. However, the Ontario government has not been an active influence on Toronto cycling policy. There is no provincial policy to compel municipalities to build bicycle infrastructure or to prevent them from doing so. The Ontario Ministry of Health Promotion provided grants to municipalities and community organizations in 2006-2007 for the development and use of trails (defined broadly to include on-street bicycle lanes) but neither the City of Toronto nor any other municipality in the region received funding as part of this program (Canzi 2008, 19). There is no evidence to suggest that this lack of provincial policy – which could be interpreted as leeway given to municipalities – was responsible for the adoption of bike

387

lanes in the City of Toronto. Rather, it is plausible that provincial guidelines or regulation might

have led to more bike lanes than were installed in the absence of provincial intervention.

The electoral system hypotheses in Chapter 2 present two alternative mechanisms

through which the structure of elections could influence climate policy. First, a single member

plurality – or ward system – could lead to reduced climate change policy because it would make

it harder for environmentalists to be elected. This hypothesis is not borne out by the evidence in

Toronto. Despite the ward system, there are multiple environmentalists in office, including

Glenn DeBaeremaeker who represents a suburban ward – a context in which it should be

particularly difficult for environmentalists to succeed.

However, the second mechanism for electoral system influence – that ward systems

incentivize parochially-motivated behaviour where at-large systems incentivize city-wide

thinking – is supported by the evidence presented here. Notably there is evidence that councillors

blocked the adoption of bicycle lanes in their wards and that staff looked to prioritize lanes in

areas with supportive local councillors. However, there is also evidence that councillors opposed

to bicycle lanes did not constrain themselves to lanes proposed for their own wards. There was

significant councillor opposition to the installation of lanes in the downtown core, even though

these lanes were outside of the wards of most councillors. Councillors seemed to be concerned

about City-wide problems of traffic congestion and economic growth. For example, in the case

of the 2012 removal of the downtown Jarvis Street cycle track, the lane was located in

exclusively in Wards 27 and 28. The councillors for both of those wards supported the retention

of the lane, but were defeated by a vote of 24-19. Twenty-one of the 24 votes to remove the lane

were cast by suburban councillors (Toronto City Council 2012). Thus, some of the evidence

supports the hypothesis, while other evidence weakens it.

7.3.4   Green Buildings

The City of Toronto's green building policies are multiple, but the two that make up the core of the City's efforts are the Toronto Green Standard (TGS) and the Toronto Green Roof Bylaw (GRB). Each is broad in scope and highly coercive. Landscape architect Scott Torrence describes them as "two of the most incredible sustainable development innovations that [he has] seen in [his] career" (Danko 2013). The Toronto Green Standard (TGS) is a custom-designed green building standard that consists of two tiers of measures: minimum standards that are mandatory for all new buildings in the City of Toronto whether owned by the City or private developers, and additional measures for more ambitious builders. Projects that meet all of the requirements for the optional second tier receive a 20% rebate on the development charges paid to the City (Toronto 2013b). Discussions began in 2004 and the final version came into effect in 2010.

Green roofs were discussed in Toronto even before the considerations of the TGS began. In 2000 the City installed a pilot green roof at City Hall, and the promotion of green roofs was part of the Environmental Plan adopted in 2001 (Banting et al. 2005, 2-3). An initial Green Building Strategy was adopted in 2006 requiring City-owned buildings to install green roofs "where feasible and practical" and offered subsidies for their installation on private buildings (Toronto 2008, 1). In 2008, the feasibility language in the context of City-owned buildings was replaced with the phrase "where technically practical" so that arguments about financial feasibility would no longer be applicable (Toronto 2008, 1). The City further increased the likely impact of its green roof policy in 2009 with the adoption of the Green Roof By-Law which mandates the installation of vegetative layers on rooftops for a wide range of new buildings in both the public and private sector (Toronto 2012).

Barriers created by political economy factors existed, but the dynamics were different than those experienced in the other policy areas such as green fleet policy. Specifically, because the TGS and GRB apply to the private sector, they impose concentrated costs on real estate developers. The literature suggests that this would make developers likely to lobby actively in opposition to the policies (Wilson 1980). And this is what happened in Toronto. Both the public and the development industry focused their attention on those elements of the policy that applied to the private sector, rather than those that applied to City-owned buildings. In the context of this analysis, the result was that the disincentives related to cost savings for the local government were minimized, but those related to the impact on economic growth were significantly magnified.

City of Toronto staff were aware of the potential for developer opposition to both policies and sought to minimize it by including them in the policy development process. Consultations with stakeholders included workshops and a survey of local developers (Toronto Policy and Finance Committee 2006, 3), but despite their inclusion, members of the property development industry did speak out against the TGS and the GRB during public consultations, meetings of committees, and in the media, opposing both specific elements of the policy and the idea of making it mandatory for the private sector: "My message today is educate me and incent me to green my roof, don't legislate me" (Hanes 2009). Even developers who are known proponents of green building were opposed to the TGS:

> "I don't think it should be mandated" said [Sean] Mason, [president of Mason Homes],
> "it's a wrong move to legislate green."… "Why shove 10 grand in extra costs on a new
> home with already far superior energy saving values when you've got millions of older
> homes that don't even have adequate insulation?" (Swainson 2007)

390

However, Council and staff also had evidence that the installation of green roofs on privately-owned buildings across the city would lead to benefits to the local economy by preventing economic losses through improved air quality, decreased urban heat island effect, and increased building energy use. Green roofs on privately-owned buildings were also shown to lead to monetary savings for the local government, primarily in the form of reduced costs for storm water management infrastructure (Banting et al., 2005).

There is also evidence of public support of the two policy proposals. Over 200 members of the public attended each of two special joint meetings of the Roundtable on the Environment and the Roundtable for a Beautiful City in November 2005 and July 2006. In both cases there were over 30 speakers and most were supportive of the existing recommendation or pushed for more ambitious requirements (Miller 2008; Toronto 2006b; Toronto City Council 2006; Toronto RERBC 2006). Deputy Mayor Joe Pantalone described the turnout for the 2005 meeting as the largest he had seen for a meeting about an issue that was not "bad news" (Miller 2008, 72).

This support is consistent with reports of relatively high salience of climate change at that time (Oates 2012, Interview), and with trends in public attention to climate change as measured by Google Trends (see Table 7.5, below). The 2006-2008 period in Canada has been described in the academic literature as a time during which climate change was high on citizens' list of important issues for governments to address (Harrison 2008). However, because this "green wave" of public attention was observed across Canada, public support for green building policy should have been present in all cities, and therefore cannot explain why high impact policies were adopted in Toronto but not in the other cities, or why the topic of green buildings in particular engendered such a large response.

Figure 7.5 Green Building Policy and Public Attention to Climate Change in Toronto
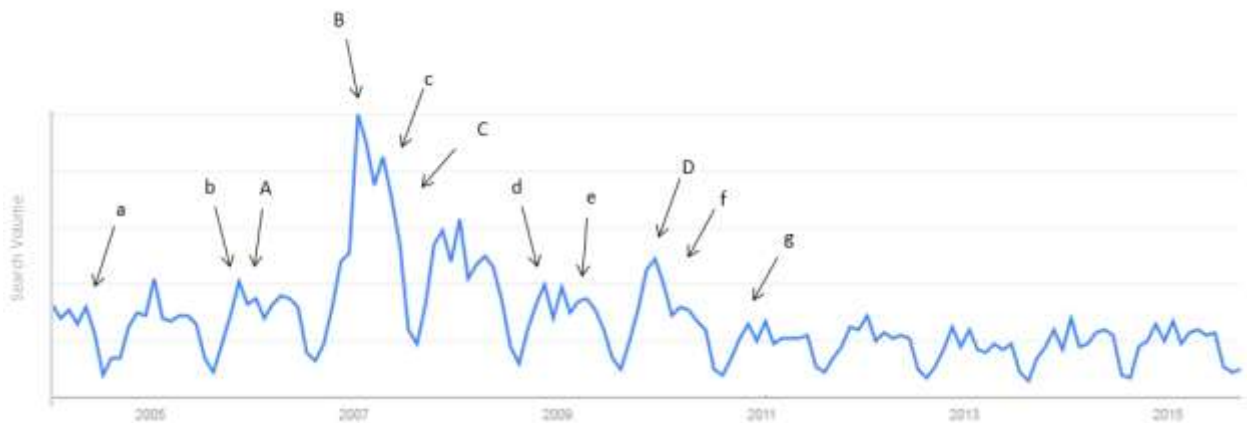
Search terms: "climate change" + "global warming"
Municipal Events: a= Beginning of discussions about Toronto Green Development Standard; b = Approval of initial green roof strategy; c = Adoption of Toronto's *Climate Change, Clean Air and Sustainable Energy Action Plan*; d = Adoption of Toronto Green Standard; e = Adoption of Green Roof By-Law; f = Coming into effect of Toronto Green Standard and Green Roof By-Law; g = Election of Mayor Rob Ford
Provincial, Federal and International Events: A = Enactment of *City of Toronto Act 2006*; B = Announcement of federal *Turning the Corner* plan; C = Adoption of Ontario's climate change action plan; D = COP 15
Data source: Google Trends. See Figure 7.1 for methodological notes on this data.

In the face of conflicting political economy incentives in terms of these policies' likely effects on economic growth, specific economic actors, the municipal budget, and public support for environmental policy measures, the Toronto Atmospheric Fund (TAF), consistent with the hypothesis, was a critical factor in the development and adoption of these two high impact green building policies. As noted above, TAF is an arms-length think tank with an explicit mandate to support the City of Toronto in its climate change mitigation goals. TAF's first major foray into green building was the Green Condo Loan program. This program, initiated in 2005, provided loans to developers in order to finance construction of new condominium towers that were at least 25% more energy efficient than the building code. This was attractive to the builders because the loan would be repaid by the condominium corporation after the units had been sold. It was designed to be attractive to unit owners because loan repayments would be less than the cost savings for utilities – in other words, even with the loan repayments, condo fees would be

392

less than in an equivalent conventional building. In total, the program funded 10 projects with a value of over $3.5 million (TAF 2013).

The Green Condo Loan program performed functions of market creation and reducing uncertainty, as described by Koski and Lee (2014). The program involved direct collaboration with developers and explicitly demonstrated to them and, crucially, to decision-makers at City Hall, that significant improvements in energy efficiency could be achieved fairly easily and more affordably than previously expected. Moreover, it piloted a new model of funding that developers could use even outside the official loan program.

Based on TAF's findings that green building can be profitable, the first tier of the TGS requires new condominiums to be 25% more energy efficient than the building code, and the second tier provides rewards if builders achieve 35% reductions or more (TAF 2013). The Green Condo Loan program showed policy makers at the City of Toronto that a policy requiring green building in the private sector would not be detrimental to the industry. However, the coerciveness of the policy is still necessary, because compliance requires that developers change their business as usual practices, something that they might not do voluntarily because it decreases their flexibility in responding to other market forces.

There is also evidence that the mayor's personal interest in climate change mitigation, combined with the efforts of specific Planning Department staff were important to the adoption of the policies. Mayor David Miller's interest in climate change mitigation and green building policy created an environment receptive to their ideas and proposals. Miller made climate change mitigation a key issue during his mayoralty. He served as Chair of C40 Cities, an international organization made up of the mayors of major global cities committed to reducing greenhouse gases (C40 Cities 2011) and spoke at the 2009 Copenhagen climate negotiations about the urgent

need for city action on climate change (Woods 2009). While Miller was not deeply involved in the development of green building policy on a personal level, his focus on climate change mitigation more generally was important to the success of those champions that did work on this issue. For example, he established citizen advisory committees – the Roundtable on the Environment and the Roundtable on a Beautiful City – where the policy was discussed and debated by the public and stakeholders. His personal commitment also sent signals to councillors and staff that proposals for climate change policy would be actively considered by the leadership (Welsh 2012, Interview). It is important to note that Miller's enthusiasm, on its own, is not sufficient to guarantee any particular policy output. As in all Canadian municipalities, the mayor's vote on Council has no more weight than the vote of any other councillor. Moreover, because the City of Toronto has a very large Council, Miller's vote was only one of forty-five.

Jane Welsh was a key policy champion in the creation of green building policy at the City of Toronto. Trained as an urban planner, Welsh's career has focused on environmental issues since she began working for Metro Toronto in 1991. Her involvement with the Green Roof By-Law and the Toronto Green Standard began in 2003 when the Planning Department first started to work on the Green Roof Strategy. Thinking about green building came out of a general goal of having more sustainable development, but the specific ideas about green roofs and a green building standard emerged from provisions in the Environment Plan (2001) and the Official Plan (Welsh 2012, Interview). Welsh did the initial research into what other cities were doing in terms of green building policy, and then hired consultants to do further studies, including cost-benefit analysis of green buildings in the wider community. She argues that despite pressure from Council to move faster on the Green Roof Strategy, she and others in the Planning Department "are very firm believers in doing our research first" (Welsh 2012, Interview). She argues that

having a firm empirical basis to the recommendations and policies is what convinced the

provincial government, as part of the new City of Toronto Act in 2006, to give the City special

permission to create a by-law regarding green roofs. While Welsh was not the public face of

green roof or green building policy, her work behind the scenes helped to not only get the

policies off the ground, but also transform the green roof policy from one that encouraged

voluntary action and provided subsidies, to a mandatory requirement for a large swath of

buildings across the city.

Toronto's experience in adopting the TGS and the GRB is consistent with the hypotheses

that political economy factors decrease the likelihood of local climate change policy but that they

can be overcome by dedicated sustainability departments. Political economy factors provided

mixed incentives: opposition from the economically powerful development industry and support

from the public. In this context, the Toronto Atmospheric Fund provided background research

and helped to demonstrate the financial feasibility of the polices. Consistent with the alternative

hypothesis of policy champions, the policies were promoted by then-Mayor David Miller and

Acting Project Manager Jane Welsh.

The evidence presented here is inconsistent with other alternative explanations of climate

policy adoption. Rather than being required by the provincial government to act or being given

leeway to do so, the City of Toronto actively petitioned the provincial government to allow the

enactment of the Green Roof By-law. This suggests that while the province holds the ultimate

legal authority, this is not a static framework. Policymakers at the City of Toronto refused to

allow their existing legal jurisdiction to be a barrier to climate policy. Moreover, the electoral

system in Toronto does not seem to have been influential in this case. Unlike in the case of

cycling infrastructure, councillors did not behave in a way that suggests their concerns were

based on ward-level objections. Finally, there is no evidence that Toronto's participation in intra-local networks had any effect on green building policy outcomes.

7.4   Conclusion

The implications of the evidence presented in this chapter are less straightforward than in the other chapters. Toronto has significant high impact climate policy in the areas of landfill gas management, green fleet policy, and green building policy. However, it lags in terms of cycling infrastructure, particularly separated lanes. In this concluding section I compare the evidence from these policy areas to the empirical predictions of the hypotheses presented in Chapter 2. I begin by discussing the consistency of the evidence with the predictions of the hypotheses concerning political economy factors and environment departments, and then move to the alternative explanations. The specific process tracing tests and their implications are presented in Table 7.1 at the end of this chapter.

7.4.1   Political Economy Factors and Environment Departments

Much of the evidence presented supports the main theory of this dissertation: independent environment departments help the City to overcome political economy disincentives to climate policy. Political economy factors create clear disincentives to climate policy in Toronto. As in the other cities, the evidence suggests that policymakers are indirectly influenced by economy actors and are concerned about the cost of climate policy to the local government. This also plays out in most of the specific policy areas. For example, cycling infrastructure advocates discuss the savings that could be achieved through reduced road maintenance and prevention of environmental damage. In contrast, opponents focused on the costs of installing and maintaining bicycle infrastructure, especially when the mode share of cycling is low. Proponents of LFG capture and utilization also noted that cost is an important factor for the local government. For

example, the owner of the Brock West cogeneration plant argued that "If you clean up the environment and provide hefty royalties [to the local government] you'll keep everybody happy at the party" (Girard 1990).

The evidence also suggests that Toronto policymakers care about the effect of climate policy on economic growth. For example, none of the policies adopted impose high costs on local economic actors. In the case of landfill gas capture, the promotion of LFG utilization led to economic *opportunities* for local actors. Green fleet policies imposed no costs on the private sector; and the costs of cycling infrastructure for local actors was minimal – mostly because very few painted or separated lanes were constructed. Finally, although the green building policies adopted by the City of Toronto imposed costs on developers, the Green Condo Loan pilot project run by the Toronto Atmospheric Fund demonstrated that new financing mechanisms to reduce costs to the developer were both feasible and not onerous.

Toronto policymakers also faced explicit opposition from private economic actors. Real estate developers – even the ones who specialized in sustainable building – were firmly opposed to green building policy. However, despite this opposition, the City adopted the policy. This stands in direct contrast to the cycling infrastructure scenario. Despite evidence that suggests that bicycle lanes impose very small costs, if any, on local businesses (e.g., Sztabinski 2009; Forkes and Smith Lea 2010), the City removed and rerouted bicycle lanes on commercial streets in response to complaints from business owners.

There is mixed evidence regarding the role of independent environmental departments in facilitating the adoption of high impact climate policy in Toronto. While there are multiple such departments, they did not always act to promote climate change policy. For example, although TAF's work was instrumental in the creation of green building policy and green fleet policy, they

did not directly intervene in the case of cycling policy. The Toronto Centre for Active

Transportation (TCAT), an NGO that has an arms-length association with TAF, actively

provided information and original research from economic, environmental and health

perspectives, but their ability to reach councillors and staff and influence decision-making was

limited.[135] TAF itself did not take up the issue. Similarly, Toronto Public Health, but not the

Environmental Protection Office, was active on this file, but from a health perspective. The

reports produced by Toronto Public Health seem to have had little effect on policy outcomes.

There was also little involvement of any environment department in the development of landfill

management systems. However, in that case political economy factors acted to incentivize

collection and utilization of landfill gas. Moreover, the evidence suggests that TAF was more

influential in these areas than other environment departments within the Toronto administration.

This analysis does not explain variation in influence among these departments, nor why TAF

intervened for some issues but not others.

Evidence from the individual policy areas also show mixed support for the alternative

hypotheses, including qualified support for the hypothesis that policy champions facilitate the

adoption of high impact climate change policy. There were policy champions for all issues

except for landfill gas capture. In the areas of green building and green fleet policy, individuals

such as Gerry Pietschmann (Fleet Services) and Jane Welsh (Buildings) played important roles

in promoting policy to reduce greenhouse gas emissions. This is consistent with the hypothesis.

However, despite the lack of clearly identifiable champion in either the political or

---

[135] The Toronto Centre for Active Transportation is associated with the Clean Air Partnership. The Clean Air Partnership was founded under the same legislation as the Toronto Atmospheric Fund (TAF), but is a charitable organization that operates at arms-length from it. Each organization has separate funding sources (CAP 2010).

administrative realm, high impact landfill gas management policy was adopted. This is inconsistent with the hypothesis.

In the case of cycling policy, despite the presence of clear political and administrative champions of cycling infrastructure (e.g., Mike Layton and Daniel Egan, respectively), few lanes were constructed and some were removed. This case also presents a scenario not covered by the theory: the presence of climate policy "anti-champions" such as Mayor Rob Ford, who actively and ideologically opposed the creation and presence of bicycle lanes on city streets. The hypothesis assumes that policy champions face neutral or persuadable opponents, and does not theorize the interaction of individuals with firm and opposing beliefs about the value of climate change policy. The interaction of policy champions seeking to further opposing agendas merits future attention.

In some instances provincial influence proved important – for example, landfill gas utilization was an attractive proposition for the City of Toronto because of provincial decisions to subsidize renewable energy generation. In other instances, such as for green building policy, the provincial government was a barrier to policy that the City successfully overcame: the Green Roof By-Law was not permitted under existing legislation, and the City had to petition the provincial government to allow it. The specificity of the clause in the City of Toronto Act, 2005 lends credence to Jane Welsh's claim that the City made a specific request to the Province.

Inconsistent with the predictions of the hypothesis, Toronto's ward-based electoral system did not limit climate policy adoption in most policy areas. However, in the case of cycling infrastructure there were clear distinctions between the preferences and voting records of councillors representing urban wards and those representing suburban wards. These differences were emphasized by the statements of suburban councillors such as Karen Stintz. Compared to

their urban counterparts, these councillors appeared to hold different beliefs about the appropriateness of cycling as a mode of transportation and the effect of cycling infrastructure on traffic congestion and economic growth. This variation in beliefs is consistent with variation in interests of their constituents. Although the infrastructure was to be built in the downtown wards, suburban residents are more likely to commute by private vehicle than residents of inner wards for whom it may be more convenient to get to work by other modes of transportation such as walking, cycling, and public transit. Finally, there is no evidence that participation in intergovernmental climate change organizations had any effect on Toronto's climate policy output.

This is the final case study chapter of the dissertation. In the next chapter I evaluate the merits of the theory of political economy factors and environmental departments advanced in this dissertation as well as the alternative explanations in the context of all four cities and all four policy areas. I conclude with a discussion of the limits of this study, its contributions and avenues for future research.

Table 7.1 Summary of Process Tracing Evidence (Toronto)

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
H1 (Explicit business influence)	Firms and industry associations lobby policymakers about climate policy issues	• Economic actors did not actively lobby regarding LFG, fleet • Complaints by retailers about loss of on-street parking due to cycling lanes • Developer opposition to mandatory green building policy: "My message today is educate me and incent me to green my roof, don't legislate me"	Easy hoop	Pass	Strengthened
	Active participation by firms and industry associations in climate policy development	• No active participation in LFG or fleet (but none expected) • Consultation with stakeholders (workshops and survey) for green building policy	Easy hoop	Pass	Strengthened
	Concessions made to economic actors on climate policy	• No concessions made for LFG or fleet • Cycling lanes removed or modified if opposed by local retailers or Business Improvement Area groups	Easy hoop	Pass	Strengthened
	Climate policy adopted does not impose high costs on locally important economic sectors	• Landfill gas capture and utilization provides opportunities for private sector companies to profit • Fleet policy imposed no costs on private sector • Costs of cycling infrastructure on businesses minimal • Green building policy imposes costs on developers by requiring action that they would not have taken voluntarily • Green Condo Loan program showed that the energy efficiency measures of green building policy not necessarily costly for developers	Easy hoop	Pass	Strengthened
H2 (Implicit business influence)	Climate policy adopted not expected to impose high costs on locally important economic sectors	• Landfill gas capture and utilization provides opportunities for private sector companies to profit • Fleet policy imposed no costs on private sector • Costs of cycling infrastructure on businesses minimal; mostly because few lanes created • Green building policy imposes costs on developers by requiring action that they would not have taken voluntarily • Green Condo Loan program showed that the energy efficiency measures of green building policy not necessarily costly for developers	Easy hoop	Pass	Strengthened

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
	Policymakers demonstrate concern about effect of climate policy on local business and investment	• No discussion of economic growth in context of LFG, fleet policy • Opponents of cycling infrastructure concerned that will increase traffic congestion, and thus economic productivity • Proponents of cycling infrastructure see it as a tool to increase economic output by decreasing congestion through mode-switching • Politicians consider costs and risks of energy retrofits for private sector (Councillor)	Easy hoop	Pass	Strengthened
	Outside observers perceive that policymakers prioritize economic growth	• No evidence that this is a prominent consideration • Topic not mentioned by interviewees	Easy hoop	Fail	Greatly weakened
H3 (Public attention)	Correspondence between adoption of policy and salience of climate change relative to national levels	• Public attention to climate change slightly higher in Ontario than in Canada as a whole, but follows the same pattern; much high impact policy.	Straw-in-the-wind	Pass	Strengthened
	Correspondence between timing of peaks in salience of climate change and adoption of climate policy	• Municipal climate change action plan adopted at peak in public attention to climate change in 2007 • No correspondence between attention to climate change and decisions about green fleet management • Negotiation of contract for Green Lane Landfill cogeneration facility authorized at peak in public attention to climate change • Decisions about green building policy made before and after peaks in public attention to climate change • Decisions to both create and remove bicycle infrastructure made when public attention to climate change at similar levels	Straw-in-the-wind	Pass	Strengthened
	Correspondence between policy adoption and policymakers' perception that the public is paying attention to the specific policy issue	• Perception of some attention to landfill gas management in late 1970s and early 1980s when methane explosions were in the media; but not later on because public debates on solid waste began to be about waste incineration and landfill siting rather than landfill gas management • Perception of minimal public attention to city fleet management; relatively high impact policy adopted • Perception of high levels of public attention to cycling just before and just after election of Rob Ford in 2010 due to	Easy hoop	Pass	Strengthened

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
		popularity of the "war on the car" rhetoric; mixed policy results. • Perception of relatively high level of attention to green building policy (higher than normal turnout to Roundtable meetings on the subject); high impact policy adopted			
H4 (Public Opinion)	In general, policymakers seek out and care about public opinion	• Public opinion central to Toronto waste management discussions, but not LFG specifically • No public consultation or public discussion of fleet policy • Public consultation for cycling infrastructure projects reduced in order to facilitate adoption • Public roundtables for green building policy well attended	Easy hoop	Pass	Strengthened
	Positive correlation between level of citizen lobbying in favour of climate policy and adoption of climate policy.	• Residents seek out politicians to advocate for climate change policy, especially before the 2008 recession (Councillor) • Vocal opposition to odors and methane from landfills (some from voters, some from other municipalities); LFG projects undertaken • Significant lobbying by cyclists in 1980s and 1990s due to safety concerns; little action taken • Citizens and environmental groups spoke in favour of green building policy; high impact green building policy adopted	Easy hoop	Pass	Strengthened
	Positive correlation between policymakers perceptions of public approval of climate policy and adoption of climate policy	• Landfill gas capture put in place after public outcry • Perception that most voters prefer to drive cars rather than cycle; media framing of conflict between drivers and cyclists – despite claims by proponents that cycling infrastructure more popular than the media makes out; Minimal adoption of cycling infrastructure • Attendance at public meetings about green building perceived to be high; green building policy adopted • Fleet policy not seen to be a public issue; green fleet policy adopted, then stalls	Easy hoop	Pass	Strengthened
H5 (Minimizing costs to local government)	In general, policymakers see fiscal responsibility as central to their role in government	• City seeks to minimize costs unless a compelling case for action (Environmental advocate) • Mayor Rob Ford's "stop the gravy train" campaign	Easy hoop	Pass	Strengthened
	Climate policy proposals	• Combination of revenue generation, pollution mitigation and	Easy	Pass	Strengthened

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
	are discussed in the context of their fiscal implications	greenhouse gas reductions makes LFG capture and utilization "a no-regrets measure" (Environmental advocate) • Potential costs and savings a major part of fleet policy proposals and discussion; biodiesel not used because too expensive • Opponents of *Bike Plan* concerned about cost to City • Proponents of cycling infrastructure see it as a way to save money on road maintenance and environmental damage	hoop		
	Climate policy is adopted when it is expected to lead to net savings for the local government	• Landfill capture and utilization increases revenue to city • Low energy prices associated with failure to build Thackeray Road LFG cogeneration facility • "If you clean up the environment and provide hefty royalties you'll keep everybody happy at the party" (private operator of LFG cogeneration facility) • First phase of green fleet policy expected to lead to net costs; second and third phases expected to lead to net savings • Upfront and operational costs of building cycling infrastructure explicitly acknowledged in *Bike Plan*, and expected benefits were non-monetary; *Bike Plan* approved, but most infrastructure not built • Lack of coordination between staff working on road and cycling infrastructure led to missed opportunities for reducing costs • Green building policy for private sector expected to lead to cost savings for local government	Easy hoop	Pass	Strengthened
H6 (Independent environment departments)	Positive correlation between independence of environment department and policy adoption	• Two environment departments: Environmental Protection Office (EPO)/Toronto Environment Office (TEO)/Environmental Services/Environment and Energy Division (EED); Toronto Atmospheric Fund (TAF) • TAF most independent; then EED • Many high impact policies	Easy hoop	Pass	Strengthened
	Where high impact climate policy is adopted, environment departments have provided information and resources	• TAF's expertise, as well as reputation for strong "ethic, and a legitimacy and a knowledge base and a set of relationships" built up since 1991, allowed the administration to be able to implement Miller's ideas about climate change mitigation • TAF role to "de-risk" ideas to make them easier for	Easy hoop	Pass	Strengthened

404

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
		policymakers to adopt • Environment departments not actively involved in LFG or cycling • TAF provided funding for pilot projects and studies to support green fleet policy; green building policy			
	Municipal environment departments are created and sustained from varied sources	• TAF created by political champion (O'Donohoue) • EPO created as an appeal to public opinion (Eggleton) • Environmental Services created as a technical group to respond to environmental issues after amalgamation; transformation into TEO the result of internal bureaucratic conflict • All sustained throughout multiple leadership regimes	Easy hoop	Pass	Strengthened
H7 (Policy champions)	There are policy champions are strongly committed to climate change mitigation at the local level	• Politicians: Chow (cycling), DeBaeremaeker (fleet; cycling), Fletcher (fleet), J. Layton (general, cycling), M. Layton (cycling), Miller (general), O'Donohue (general), Pantalone (buildings, general), Perks (general) • Staff: Davies (general), Pietschmann (fleet), Egan (cycling), Welsh (buildings) • No clear LFG champions • Director of Transportation Infrastructure Management not a champion of cycling infrastructure	Easy hoop	Pass	Strengthened
	Bureaucratic champions promote climate policy throughout its development and adoption	• Pietschmann promoted green fleet policy throughout, but kept his "head down" during the tenure of Mayor Rob Ford • Welsh heavily involved in development and promotion of green building policy • Lack of bureaucratic coordination for cycling infrastructure, despite Bike Plan Coordinating Committee (headed by Egan)	Hard hoop	Pass	Strengthened
	Political champions promote climate policy throughout the process of its adoption (i.e. in committee and Council meetings)	• Miller always a strong proponent at general level • DeBaeremaeker and Fletcher facilitated green fleet policy as Committee chairs • *Bike Plan* supported by Jack Layton and Olivia Chow • Mike Layton actively championed bicycle policy • Anti-cycling advocates, including Mayor Ford and Councillor Minnan-Wong made clear that proposals that might lead to increased automobile congestion would be rejected	Easy hoop	Pass	Strengthened

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
		• Miller and Pantalone promoted green building policy			

H8 (Inter-urban networks)	Positive correlation between participation and climate policy adoption	• Toronto participates in networks and has a lot of climate policy (although not very much cycling infrastructure)
		• Timing of participation and adoption of policy not correlated:
		  o Early LFG capture projects pre-date Toronto's involvement in climate change networks
		  o Struggles to adopt cycling infrastructure before participation *and* coinciding with Miller's C40 leadership
			Easy hoop	Fail	Greatly weakened

	Participating municipalities access selective incentives provided by climate change networks	• Information and financing did not come from network participation	Easy hoop	Fail	Greatly weakened
	Non-participants do not have access to selective incentives provided by networks	• Toronto did not access selective incentives from climate change networks of which it was not a member	Easy hoop	Pass	Strengthened
H9a (At-large systems: more environmentalists)	Cities with at-large electoral systems have more climate policy than cities with ward systems	• Toronto has ward system; Toronto has most climate change policy of all Canadian municipalities. Strong landfill gas collection; very strong green fleet policy; medium level of cycling infrastructure (relative to city size); very strong green building policy	Easy hoop	Fail	Greatly weakened
	At-large electoral systems produce more environmentalist councillors than ward systems	• Toronto has had multiple environmentalist councillors (e.g. DeBaeremaeker, Fletcher, Johnston, J. Layton, M. Layton, O'Donohue, Pantalone, Perks). However, it is not a large proportion given the size of the council.	Easy hoop	Fail	Greatly weakened
	Environmentalist councillors in both systems are active participants in climate policy adoption	• No environmentalist councillors actively involved in LFG policy • Environmentalists heavily involved in green fleet policy • Environmentalists promoted cycling infrastructure • Environmentalists involved in green building policy	Easy hoop	Pass	Strengthened
H9b (At-large electoral systems: ethos theory)	Cities with at-large systems have more climate policy than cities with ward-based systems	• Toronto has ward system; Toronto has most climate change policy of all Canadian municipalities. Strong landfill gas collection; very strong green fleet policy; medium level of cycling infrastructure (relative to city size); very strong green	Easy hoop	Fail	Greatly weakened

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
		building policy			
	In at-large systems councillors prioritize issues that do not have geographically concentrated effects, whereas in ward systems councillors focus on issues that affect their own wards	• Councillors focused on ward-specific and "ward-healing" issues • Non-environmentalist councillors less willing to support broader initiatives • No councillor involvement in ward-specific landfill issues • All councillors involved in discussions of waste management as a City-wide issue • Councillors attentive to non-ward-specific fleet management • Councillors representing suburban wards much more opposed to cycling infrastructure located downtown than councillors representing downtown/former City of Toronto wards • Beginning in 2007-2008 cycling infrastructure proposals were geared towards those projects in wards with supportive councillors	Easy hoop	Pass	Strengthened
	Climate change mitigation seen as within municipal jurisdiction in at-large systems, but not in ward systems	• Climate policy largely seen as within local jurisdiction; all specific policy areas seen as within local jurisdiction	Easy hoop	Fail	Greatly weakened
H10a (Provincial influence: minimum requirements)	Local climate policy meets minimum provincial requirements, but does not exceed them	• Meets 2008 provincial requirement for all large landfills to have LFG collection systems. • LFG utilization goes beyond provincial requirements • Green building policy exceeds minimum provincial standards • No minimum standards for cycling infrastructure or fleet management	Easy hoop	Fail	Greatly weakened
	Municipalities do not adopt climate policy in areas not regulated by the provincial government	• Green fleet policy adopted despite lack of provincial requirements • Cycling infrastructure not required by province	Easy hoop	Fail	Greatly weakened
H10b (Provincial influence: restrictive limits)	Municipalities take advantage of subsidies and other non-regulatory incentives to climate policy	• Incentives from the provincial utility in 1986 and 1994 followed by to development of LFG cogeneration facilities; price cap on in 2000 followed by failure to build Thackeray Rd site • Toronto took advantage of provincial incentives and rebates for green fleet activities	Easy hoop	Pass (LFG/ Fleet) Fail (Cycling)	Strengthened (LFG/Fleet) Greatly weakened (Cycling)

Hypothesis	Empirical Prediction	Illustrative Evidence	Type and Difficulty of Test[a]	Pass or Fail	Implication for Hypothesis
		• Beginning in 1990 cycling infrastructure eligible for provincial transportation funding, but this did not spark lane construction • Toronto did not access provincial funding for "trails"			
	Cities are unsuccessful in challenging provincial restrictions on climate policy	• Toronto did not challenge provincial policy on LFG • Toronto successfully petitioned for the ability to adopt a green roof by-law, something that is not permitted in the provincial building code	Easy hoop	Fail	Greatly Weakened

[a] See Chapter 3, and Table 3.1 in particular, for a full overview of the types of process tests, their difficulty, potential outcomes, and the implications of those outcomes on the hypothesis.

Chapter 8: Conclusion

Urbanization and global warming are two of the most pressing issues facing humanity over the next 50 years. The International Panel on Climate Change (IPCC) reports that from 2000 to 2010 greenhouse gas (GHG) emissions were at their highest level in human history. The IPCC also predicts that without additional mitigation efforts, global temperatures may rise as much as 4.8°C by the end of the century (IPCC 2013, 23) which is likely to lead to "severe and widespread impacts on unique and threatened systems, substantial species extinction, [and] large risks to global and regional food security" (IPCC 2014b, 14). Despite these alarming numbers, global climate change negotiations have repeatedly failed to produce binding commitments and robust responses by national governments.

Can cities fill the gap? Some seem to think so, but not all municipalities are leaders in urban sustainability. Why do some local governments enact more climate change mitigation policies than others? In this dissertation I have tested a theory of local decision-making that emphasizes the role of independent municipal environment departments.

In Chapter 2, I hypothesized that the disincentives to climate policy created by political economy factors should make us cautious about concluding that cities will fill the regulatory gap left by a lack of stringent national and international climate change commitments. I further hypothesized that independent environment departments within the municipal administration may enable some cities to overcome these disincentives and adopt climate policy that is likely to lead to significant reductions in greenhouse gas emissions. I suggested that this theory would be a better explanation of variation in municipal climate policy adoption in Canada than four alternative hypotheses: the influence of individuals acting as climate policy champions,

participation in inter-urban climate change networks, the effects of local electoral systems, and

intervention by provincial governments. These hypotheses are summarized in Table 8.1, below.

Table 8.1 Summary of Hypotheses

H1	Explicit pressure from economic actors decreases the likelihood that cities will adopt climate policy.
H2	Implicit pressure from economic actors decreases the likelihood that cities will adopt climate policy.
H3	Adoption of local climate policy is a function of public support. Because the benefits of climate policy are distributed diffusely, strong support for municipal climate policy is unlikely.
H4	Adoption of local climate policy is a function of public attention to the issue. When and where the public is paying more attention to climate change, local governments will be more likely to adopt climate policy.
H5	Policymakers seek to minimize costs to local government. High impact climate policy is likely to lead to net costs to the local government, leading to limited adoption of climate policy.
H6	Cities with independent environment departments are more likely to have high impact climate policy as these departments provide resources – primarily information – to support policy adoption.
H7	Cities with politicians and staff who are personally committed to climate change mitigation are more likely to adopt climate change policy as these individuals act to facilitate the policy adoption.
H8	Cities that participate in intergovernmental climate change networks are more likely to adopt climate policy because these networks provide selective incentives, including opportunities to learn from peers as well as technical and financial resources.
H9a	At-large systems increase the likelihood that environmentalists will be elected to Council and thus facilitate the adoption of climate policy.
H9b	At-large systems increase the probability that councillors will prioritize global and city-wide issues that are not focused on geographical constituencies. This will increase the likelihood of climate policy adoption.
H10a	Local climate change policy is a function of provincial mandates. Variation in municipal climate policy reflects variation in the minimum standards set by the Province.
H10b	Local climate change policy is a function of the limits provincial governments impose on municipal governments and the non-regulatory incentives they provide.

In Chapters 4 to 7, I used process tracing to test these claims in four Canadian cities –

Brampton, Winnipeg, Vancouver and Toronto – across four specific issue areas: landfill

management, municipal fleet management, cycling infrastructure, and building standards.

Through the analysis of government documents, media reports and interviews with over 70

informants in the four cities, I compared empirical observations to the specific theoretical

predictions of each of the hypotheses. I used process tracing tests, as elaborated in Chapter 3, to determine the explanatory power of the theorized explanations.

As discussed in more detail below, I find that the theory of independent environment departments is a better explanation of variation in Canadian municipalities' climate change mitigation policy than the alternatives, although there is also significant support for the alternative hypothesis regarding policy champions. Unexpectedly, I also find that some political economy factors were more important than others in terms of affecting the adoption of municipal climate policy. The factors that proved most important were the expected cost of the policy to the local government and the implicit influence of economic actors.

In this final chapter I reiterate the value of process tracing methodology, summarize the process tracing evidence presented in the earlier chapters and present the key findings of this research. I then discuss the limitations of the dissertation and an agenda for future research that emerges from it. I conclude with an overview the contributions of this research to the study of public policy and urban politics, and, perhaps most importantly, to the work of policymakers and other practitioners who are actively involved in efforts to mitigate global climate change.

8.1   The Logic of Process Tracing

Using process tracing, discussed in detail in Chapter 3, researchers draw conclusions about the operation of causal mechanisms by comparing the empirical predictions of hypotheses to causal-process observations from real-life cases. Prior to testing, the researcher theorizes what should be observed if the hypothesis is correct. Then, the researcher conducts an in-depth examination of one or several cases. Depending on the nature of the prediction (i.e. the type of process tracing test), observing or failing to observe the expected evidence will strengthen or weaken our confidence in the hypothesis. The type of test (straw-in-the-wind, hoop, smoking

gun, or doubly decisive) and the difficulty of the test determine the degree to which the

hypothesis is strengthened or weakened. The type of test and its difficulty is determined by the

probability that we will observe a piece of evidence conditional on the hypothesis being correct,

the probability that we will observe that same evidence conditional on the hypothesis being

incorrect, and the relationship between those probabilities. For example, an easy hoop test is a

prediction for which the likelihood of observing a piece of evidence is very high if the hypothesis

is true, and almost (but not quite) as high if the hypothesis is not true. As a result, observing the

evidence is not surprising, but it still strengthens our confidence in the hypothesis. However, *not*

observing the evidence would be very surprising and would greatly weaken our confidence in the

hypothesis.

To give a concrete example from the above, in Chapter 2 I hypothesize that because

policymakers are deeply concerned about fiscal responsibility, they are unlikely to adopt high

impact climate policy that imposes a net cost on the local government. One of the three empirical

predictions of this hypothesis is that discussion of climate policy proposals among policymakers

focuses on their fiscal implications. This is a hoop test because while it is very likely that

policymakers would focus on the fiscal implications of climate policy proposals if they are

ideologically committed to reducing costs or balancing budgets, it is also quite likely that they

would focus on fiscal implications for other reasons. For example, they might be concerned

about reallocating funds from social services. As a result, if we observe that policymakers

publicly discuss the fiscal implications of climate policy proposals, we can be a little more

certain that concerns about municipal fiscal responsibility affect decisions about climate policy

adoption. This is, in fact, what we saw in all four of the cities explored above. However, had we

412

not observed such discussions, we would be fairly confident in concluding that concern about fiscal responsibility was not at the root of decisions about climate policy.

Rigorous and systematic use of process tracing involves examining cases in depth and determining whether the evidence is consistent with the empirical predictions of not only the primary hypothesis, but also alternative hypotheses. In this dissertation I test whether the evidence is consistent with the empirical predictions of primary hypotheses regarding political economy factors and independent environment departments. However, I also consider whether it is consistent with the predictions of a number of alternative hypotheses about the role of individuals who act as policy champions, local government participation in inter-urban networks, municipal electoral systems, and provincial influence.

Process tracing's mechanism-level approach mitigates the risk that findings are the result of chance or spuriousness, and allows us to distinguish between different ways that independent variables influence outcomes. Through in-depth examination of cases at the mechanism-level, process tracing provides independent leverage to overcome these problems. Moreover, even if we are convinced that the observed relationship between the independent and dependent variables is causal, there may be different pathways through which the hypothesized independent variable affects the outcome. The detailed case-based analysis of process tracing allows us to distinguish between alternative causal mechanisms.

For example, one frequently proposed explanation of the City of Vancouver's success in adopting climate policy is that councillors are elected at-large; that is, they do not represent geographically-defined constituencies. While it is true that Vancouver has adopted more high impact climate policy than many other Canadian cities that employ (geographically-based) ward systems, there are two possible causal mechanisms that might produce this outcome. First,

413

Councils with more environmentalist councillors, it is hypothesized, will adopt more climate policy. At-large systems result in the election of more environmentalist councillors than ward systems because they provide an advantage to environmentalist candidates – citizens who espouse environmentalist beliefs are likely not to be concentrated in particular geographic areas of the city.

An alternative causal mechanism provides a different explanation of why at-large systems may increase the probability that local governments adopt climate policy. This second hypothesis suggests that at-large systems encourage all councillors, regardless of whether they identify as environmentalists, to consider and debate issues that affect the city as a whole. Because they are not dependent on voters in a particular geographic constituency, councillors are less likely to object to policies that are likely to benefit the city as a whole but may impose costs on a particular neighbourhood. As a result, climate change is more likely to be adopted in cities that use at-large electoral systems even if there are not many environmentalists on Council.

Process tracing is particularly useful for teasing out both *whether* there is a causal effect of municipal electoral systems on local climate policy outcomes, and if so, precisely *how* that causal process operates. Here, the independent variable is the same for both of the hypotheses and process tracing allowed me to determine whether the observed relationship was due to chance, spuriousness or an actual causal relationship that might take two forms. Examining causal processes, and not just the relationship between independent and dependent variables, increases both our understanding of phenomena of interest (in this case, the adoption of climate change policy by local governments) and potentially increases our ability to influence outcomes based on normative criteria (such as mitigating global climate change).

414

8.2   Summary of Process Tracing Evidence

In Chapters 4 to 7 I examined the decision-making process in four policy areas across four cities, and compared the evidence to the empirical predictions of the hypotheses presented in Chapter 2. The results of these comparisons – the process tracing tests, their outcomes, and the implications for the hypotheses – are detailed in the tables at the end of each chapter. Taken together, the evidence is largely consistent with the predictions of the theory put forward in this dissertation: most cities have adopted limited climate change policy due to political economy factors, but independent environment departments within municipal administrations increase the likelihood of the adoption of high impact climate policy by providing both information and resources. The process tracing evidence also provides a nuanced picture of the role of political economy factors and the causal impact of the alternative hypotheses. In this section I summarize the process tracing evidence and the resulting implications for each of the hypotheses tested in this dissertation.

Table 8.2, below, presents the implications of the process tracing evidence from all of the cases for the hypotheses tested. For each of the cases I have indicated whether the weight of the process tracing evidence supports, weakens or is mixed or neutral for each of the hypotheses. The total implication for each hypothesis across all of the cases is presented in the bottom row of the table.

Because most of the process tracing tests are easy hoop tests, the findings here are not absolutely conclusive. Rather, evidence consistent with the empirical predictions of the hypotheses slightly strengthens our confidence in those hypotheses, and evidence inconsistent with the prediction strongly undercuts them. However, as discussed by Bennett (2015) the results

of easy tests are cumulative, because the probability of encountering lots evidence consistent with the predictions is lower than the probability of finding just a few pieces of evidence.

Despite this limitation, the process tracing evidence presented in this dissertation – as specified in Tables 4.1, 5.1, 6.1 and 7.1, and summarized in Table 8.2 , below – provides support for the theory of political economy factors and independent environment departments that I have proposed, but also suggests that certain political economy factors are more important to municipal policy makers than others. Specifically, the process tracing evidence suggests that the most important factors are the expected cost of the policy to the local government and implicit business influence.

The former is particularly evident in the case of Brampton. The empirical predictions of the hypothesis regarding the role of expected costs of policies are three-fold: policymakers should perceive good fiscal management to be central to their role, adopted policies should impose little or no cost on the local government, and discussions of climate policy proposals should focus on their fiscal implications. None of the climate policies adopted in Brampton was expected to impose significant costs on the local government: green fleet policy should save the city money through fuel efficiency, cycling infrastructure was minimal and largely funded by provincial sources, and no green building policy was adopted at all. Policymakers were explicit about the importance of fiscal management in their decision-making. For example, as one staff member noted: "The citizens of Brampton expect us to be good stewards of their tax dollars" (Pyne 2014, Interview). The net costs of policies were also central to discussions about particular proposals – within the administration, between staff and politicians, and between policymakers and the public.

Evidence consistent with the empirical predictions of this hypothesis was also seen in Winnipeg. For example, the delay in constructing the landfill gas collection system is at least partly attributable to reduced opportunities for profit from landfill gas utilization. Altogether, the consistency of these pieces of evidence (and others presented in Chapters 4 to 7) with the empirical predictions of the hypothesis lends credence both to the conclusion that expectations of the costs of climate policy influence its adoption, and to a greater confidence that the relationship between this independent and the dependent variable (climate policy adoption) is the result of neither chance nor spuriousness.

Similarly, detailed evidence from all four cities shows that implicit business influence, as measured by policymakers' concerns about encouraging economic growth and minimizing the costs imposed on locally important economic sectors, affected the adoption of climate policy. This is evident even in Toronto and Vancouver, where the green building policy ultimately adopted required private developers to undertake potentially expensive actions. However, policymakers' fears about the impact of these requirements on economic growth were alleviated by, in one case, negotiating subsidies for these industries in the form of reduced community amenity contributions (Vancouver), and in the other, conducting pilot projects that demonstrated a successful alternative financing mechanism (Toronto). Of note, while these strategies mitigated costs imposed on private interests, they *increased* the cost of the policies to the local government itself. This finding suggests that there may be some interactions between the hypotheses regarding political economy factors that might usefully be examined in the future.

Table 8.2 Summary of Process Tracing Evidence

Cases	DV: Likely impact	H1: Explicit Business Influence	H2: Implicit Business Influence	H3: Public Attention	H4: Public Opinion	H5: Cost	H6: Environment Departments	H7: Policy Champions	H8: Climate Networks	H9a: Elections (councillors)	H9b: Elections (topics)	H10a: Province (mandate)	H10b: Province (restriction)
Brampton: Fleet	**Low**	✓	✓	✗	✗	✓	✓	✓	—	✗	✓	✗	—
Brampton: Cycling	**Low**	✗	✓	✗	✓	✓	✓	✓	—	✗	✓	✗	—
Brampton: Buildings	**None**	✗	✓	✗	✓	✓	✓	✗	—	✗	✓	✓	—
Winnipeg: Landfill	**Medium**	✓	—	✗	✗	✓	✓	✗	—	✗	—	✓	✗
Winnipeg: Fleet	**Low**	✓	—	✗	✗	✓	✓	✓	—	✗	—	✗	—
Winnipeg: Cycling	**Medium**	✓	✓	✗	✓	✓	✓	✓	—	✗	—	✗	—
Winnipeg: Buildings	**Low**	✗	✓	✗	✗	✓	✓	✓	—	✗	✗	✗	✗
Vancouver: Landfill	**High**	✓	—	✗	✓	✓	✓	—	✓	—	✓	✗	—
Vancouver: Fleet	**Medium**	✓	✓	✗	✗	✓	✓	✓	✓	—	✓	✗	—
Vancouver: Cycling	**High**	—	✓	✗	✗	✗	✓	—	✓	✓	✓	✗	✗
Vancouver: Buildings	**High**	✓	✓	✗	✗	✗	✓	✓	✓	✓	✓	✗	✗
Toronto: Landfill	**High**	✓	✓	✗	—	✓	✗	✗	✗	✗	✗	✗	—
Toronto: Fleet	**Medium**	✓	✓	✗	—	✓	✓	✓	✗	✗	✗	✗	—
Toronto: Cycling	**Medium**	✓	✓	—	—	✓	✓	—	✗	✗	✓	✗	✗
Toronto: Buildings	**High**	—	✓	✗	✓	✓	✓	✓	✗	✗	✗	✗	✗
Overall Implication		—	✓	✗	—	✓	✓	✓	—	✗	—	✗	✗

Sources: Process tracing summary tables from Chapters 4, 5, 6 and 7 (Table 4.1, Table 5.1, Table 6.1, and Table 7.1)

✓= process tracing evidence supports the hypothesis; ✗ = process tracing evidence weakens the hypothesis; — = process tracing evidence mixed

Contrary to claims from both urban politics and environmental politics literatures, our confidence in the other three hypotheses related to political economy factors is greatly weakened due to the process tracing evidence observed across the fifteen cases.[136] When mechanism level evidence is considered, hypotheses regarding public attention to climate change and particular policy areas, the explicit demands of economic actors and public opinion are weakened. The logic of issue salience suggests that climate policy should be adopted when the public is paying attention to climate change. However, the timing of policy adoption in all of the cities and across most of the policy areas maps poorly onto patterns of public attention to climate change. Even when perceptions of public attention are disaggregated by issue area, there is little evidence that this was a deciding factor for policymakers. In some cases, policymakers perceived public attention to be perpetually low – for example, in the area of fleet management. In such policy areas decisions to adopt climate policy *and* to reject it were unrelated to perceptions of public attention to the issue.

There is likewise mixed evidence for the hypothesis about the role of public opinion. In Brampton, policymakers were explicit that their reluctance to adopt green building policy or to construct bicycle lanes was the result of their perceptions of public opposition – or lack of public support. Similarly, in Toronto policymakers such as Deputy Mayor Joe Pantalone noted the high levels of public support prior to the adoption of the Toronto Green Standard and the Green Roof By-Law. In contrast, most decisions about green fleet policy and landfill gas management were divorced from active considerations of public opinion because, as noted above, policy makers

---

[136] There are sixteen potential cases (four policy areas in each of four cities), but landfill management in Brampton is excluded because this is a responsibility of the upper-tier local government (the Region of Peel). Note that this exclusion does not in any way affect this dissertation's assessment of Brampton's climate policy.

believed that the public was unaware of or did not care about these issues. One exception was landfill gas management in Toronto. Initial decisions to capture landfill gas at in that city were linked to the public outcry that resulted from the occurrence of methane explosions and unpleasant odours near landfill sites.

The weight of the process tracing evidence from the fifteen cases considered in this dissertation supports the hypothesis that independent municipal environment departments increase the likelihood that a local government will adopt high impact climate policy. This hypothesis forms the core of the major theoretical explanation of municipal climate policy adoption. While political economy factors in a city may create barriers to local climate policy adoption, the likelihood of adoption increases if there is an independent environment department within the municipal administration.

This dissertation has explicitly considered the possibility that there might be an antecedent variable that leads to the creation of municipal environment departments – in other words that such departments themselves might exist or exert influence because of other factors such as public opinion or individuals acting as policy champions. However, exploration of the origins and evolution of the departments in Toronto and Vancouver has shown that each story was different. There is no common cause of such departments' creation and survival. Moreover, there is no reason to believe antecedent variables such as public opinion or policy champions should lead to the same institutional solution in all cases. Empirically, even where individuals committed to environment and climate change have influenced staffing decisions, they have taken different approaches. While in Toronto Councillor Tony O'Donohue advocated for the creation of an environmental division with an independent budget (TAF), in Winnipeg Mayor

Glen Murray created an Environmental Coordinator position that was based out of the secretariat of the Executive Policy Committee and had no standing within the administration.

At the surface the findings seem obvious: in the cities with environment departments (Vancouver and Toronto) there is significant high impact climate policy. In the cities without such departments (Brampton and Winnipeg) there is not. However, more detailed examination using the techniques and logic of process tracing reveals a more nuanced picture. Despite not having independent environment departments, both Brampton and Winnipeg have some institutional capacity for climate change policy: they have environmental advisory committees and staff positions dedicated to environmental issues. In some cases these citizen committees and dedicated administrative positions have been influential – for example in the case of cycling infrastructure in Winnipeg. However, they have been insufficient in terms of leading to high impact climate policy in the areas considered here. Specifically, the hypothesized mechanism was not observed: these individuals and committees did not effectively facilitate the spread of information and resources across line departments and institutionalize ideas of sustainability within the municipal administration. On the whole, this evidence is not consistent with the empirical predictions of the environment departments hypothesis.

In the cities that do have dedicated independent environment departments we also observe evidence that is consistent with the predictions of the hypothesis. In Toronto, the department with more independence (i.e. greater organizational capacity and greater insulation from political and administrative interference) – the Toronto Atmospheric Fund – was more influential in the adoption of climate policy than other environment departments that were more closely affiliated with line departments or had more limited mandates (the Environmental Protection Office and the Toronto Environment Office). In Vancouver, we observe direct

evidence of the operation of the policy learning mechanism: the Sustainability group worked closely with staff in other departments to spread information and resources and to promote a city-wide ethic of incorporating sustainability into everyday decisions. This practice is exemplified by the "embedded staff" who are responsible to the management of line departments but whose salaries come from the Sustainability group.

The evidence regarding the role of policy champions is mixed, but overall the process tracing tests provide leverage in favour of the hypothesis that policy champions facilitate climate change policy at the municipal level. However, the hypothesis regarding independent environment departments remains a more convincing explanation.

In Brampton, there were a small number of policy champions within the bureaucracy, and none among elected officials. This is consistent with the predictions of the hypothesis, as Brampton also adopted very little climate policy. However, although Dale Pyne has long been a strong advocate of climate policy in the building sector, he has not been successful in translating this into a formal commitment to green building at either the corporate or community level. This is inconsistent with the predictions of the hypothesis. Because of the nature of hoop tests, such inconsistency *greatly weakens* our confidence in the hypothesis.

Policy adoption in most of the issue areas in Winnipeg was consistent with the predictions of the policy champions hypothesis. For the issues for which policy was adopted in a timely manner – namely green fleet policy and green building policy – were heavily influenced by administrative policy champions. However, the policy adopted in these areas tended to be of relatively *low* impact. This is inconsistent with the predictions of the hypothesis, again weakening our confidence in the hypothesis. In the area of landfill gas management, the story begins in a manner consistent with the empirical predictions: action while there was a policy

champion (Mayor Murray) and no action following his departure. This strengthens our confidence in the hypothesis. However, that the policy was ultimately adopted due to the direct intervention of the provincial government strongly undercuts the hypothesis.

The Vancouver case provides a more nuanced perspective on the role of policy champions. Consistent with the predictions of the hypothesis, there were multiple political and administrative champions who were active in the development and adoption of high impact climate policies. This case also suggests that the particular identity of policy champions – whether they are politicians or staff – is not the most important consideration. In Vancouver, there was not always *both* a political champion and an administrative champion for each policy area. For example, there was no clear political champion of landfill gas capture, and no clear administrative champion of cycling policy, despite the adoption of high impact policy in both areas.

The situation in Toronto was somewhat different. The process tracing evidence is consistent with the predictions of the hypothesis regarding policy champions in all but the case of landfill gas capture (where high impact policy was adopted despite an apparent lack of climate policy champion) but there is also evidence that individuals may have had an influence not considered in the hypothesis. Specifically, in the case of Toronto it appears that some politicians, notably former mayor Rob Ford, acted as "anti-climate policy" champions. In particular, Mayor Rob Ford's influence and rhetoric about "the war on the car" were effective in blocking much of the proposed high impact cycling infrastructure, and his attitudes led many staff to keep their heads down and try to avoid making decisions that would have to be ratified by Council (see Chapter 7). The hypothesis about policy champions presented in this dissertation does not make

any specific predictions about the interaction of policy champions who promote opposing policy goals. This would be an interesting avenue for future research.

Moreover, the cases for which the process tracing evidence does not support the hypothesis about policy champions are notable in that all are infrastructure related: mostly landfill gas capture and one instance of cycling infrastructure. Of particular note, the case of Toronto's landfill gas capture policy seems to be an outlier, as the weight of process tracing evidence supports only the hypotheses related to costs and implicit business influence and not the other political economy hypotheses or the independent environment departments hypothesis or alternative hypotheses about policy champions, network participation, electoral systems, or provincial influence. Perhaps this is the result of the prominence of the waste management debate surrounding the decision to export the City's solid waste the Michigan site. Further investigation of this case may be useful to shed light on the causal factors at work.

The process tracing evidence also provides limited support for the alternative hypothesis that participation in inter-urban climate change networks encourages municipal climate policy adoption. While the evidence is largely mixed, it also suggests that whether a municipality participates in climate change networks is more important in some cities than others. For example, Brampton is not a member of any climate change network, and has very little climate policy. This is consistent with the predictions of the hypothesis. However, the City has accessed funds provided as part of the Federation of Canadian Municipalities' Green Municipal Fund (GMF). This fund is intended to help members of the Partners for Climate Protection program achieve their goals, but it is also open to members of the Federation of Canadian Municipalities that have not joined the Partners for Climate Protection program. To a degree this is inconsistent with the predictions of the hypothesis because Brampton is benefiting from the existence of the

424

network even though it is not a member. However, it is also consistent with the predictions of the hypothesis because Brampton has not benefited from the non-monetary selective incentives of membership (e.g. technical assistance). Moreover, the funding Brampton received from the GMF for a green building project did not lead to the adoption of green building policy.

In contrast, Winnipeg is a full member of Partners for Climate Protection, but Council has both implicitly and explicitly rejected its commitments under the program. In 2009, Council celebrated that it had met its goal of reducing its corporate emissions by 20% below 1990 levels, but 18 of those 20 percentage points of that reduction were achieved not by actually reducing emissions but by selling the municipal utility so that the emissions (at unchanged levels) were attributed to a different jurisdiction (Kives 2009). In the same discussion, Council rejected a motion to set a target for community emission reductions. Councillor Jenny Gerbasi explicitly referred to the City's commitments under the Partners for Climate Change Protection program, but this did not convince her colleagues that action to reduce community emissions was necessary. This mixed record of participation is consistent with the City's mixed record of climate policy adoption.

In Chapter 2 I posit two related hypotheses regarding the role of electoral systems. Both suggest that at-large electoral systems lead to the adoption of more high impact climate policy, but each depends on a different causal mechanism. The weight of the process tracing evidence does not support either of these hypotheses. The first of these hypotheses was based on the manner in which ward-based electoral systems privilege geographically-concentrated interests because politicians seek to claim credit for policies that provide particularized benefits. At-large electoral systems correspondingly privilege functionally-defined interests. The logic of the mechanism is that because citizens who care about the environment tend not to be concentrated

425

in any particular geographic area of the city, environmentalist councillors are more likely to be elected in at-large electoral systems than ward-based systems. These environmentalist councillors are responsible for the adoption of climate change policy. There are three primary empirical predictions of this hypothesis: 1) cities with at-large systems should have more climate policy than cities with ward-based systems; 2) cities with at-large systems should have more environmentalist councillors than cities with ward-based systems; 3) environmentalist councillors in *all* cities should be active promoters of climate change policy. The evidence presented in this dissertation greatly weakens this hypothesis. While Vancouver, the only city with an at-large system, does have more climate policy than Winnipeg and Brampton, it has a similar – if not slightly lower – level of climate policy than Toronto, which has a ward system. Likewise, although Vancouver has elected many environmentalist councillors by means of the at-large system, many prominent environmentalists have also been elected in Toronto by means of a ward system (although the much larger size of the Toronto council means that the proportion of environmentalist councillors is lower in that city). These are both easy hoop tests, and thus failure to observe evidence consistent with the predictions of the hypothesis greatly weakens our confidence in the hypothesis. Moreover, there is also evidence that environmentalist councillors – particularly in Winnipeg and Brampton – were *not* active in promoting climate policy. This is another hoop test. The logic of the mechanism only works if those environmentalists who are elected – regardless of the electoral system – are the source, or at least the strongest promoters, of climate policy.

The second electoral systems hypothesis is based on the "ethos theory" proposed by Banfield and Wilson (1963). In this hypothesis, electoral systems matter because they incentivize councillors to think about issues differently. Specifically, the hypothesis is that at-large electoral

426

systems encourage councillors to think about the interests of the city as a whole, rather than the particularized interests of geographic areas, or socio-economic or ethnic groups. Climate change is one issue that has city-wide implications. This hypothesis also has three empirical predictions: 1) cities with at-large systems should have more climate policy than cities with ward-based systems; 2) councillors in cities with at-large systems should be more concerned with "city-wide" issues than their colleagues in cities with ward-based systems, and less concerned about issues that primarily benefit particular areas of the city; 3) officials in cities with at-large systems are more likely to consider climate change to be within municipal jurisdiction than their counterparts in cities with ward-based systems. The evidence presented in this dissertation is mixed with regard to this hypothesis. Looking at the cases individually, the evidence is consistent with the empirical predictions for all of the policy areas in both Vancouver and Brampton. Vancouver has an at-large system, significant climate policy, councillors were broadly engagement in discussions about climate policy and other issues from a city-wide perspective, and climate policy and all specific policy areas were considered to be part of municipal jurisdiction. In contrast, in Brampton, a city with a ward-based electoral system, there is little climate policy in any of the specific areas, councillors rarely discuss climate change and are deeply concerned about the needs of their particular wards, and both climate change and green building policy are largely considered to be outside of the jurisdiction of the municipal government.

However, the evidence from Toronto and Winnipeg is not consistent with the predictions of this hypothesis. Because these are hoop tests, not observing evidence consistent with the predictions greatly weakens our confidence in the hypothesis. Both Toronto and Winnipeg elect councillors from geographically-determined districts, but while Winnipeg has a moderate

amount of climate policy, Toronto is a leader in Canada. In Winnipeg councillors were primarily

concerned about the issues that affect their own wards, but such concerns did not appear to be

influential in decisions about policy adoption in any of the issue areas considered. Similarly,

ward-based concerns of Toronto councillors were apparent only in decisions regarding the

development of cycling infrastructure in the city. Likewise, officials in both cities considered

climate change and the specific policy areas to be within the jurisdiction of the local government

– with the exception of green building policy for privately owned buildings in Winnipeg.

These findings lead me to conclude that electoral systems – regardless of mechanism –

are not the cause of the observed variation in climate policy adoption across Canadian cities.

Despite the centrality of at-large electoral systems to urban reform philosophy, they are unusual

in Canada. Future investigation of their impact could be undertaken by designing a research

project that compares climate policy outcomes in Vancouver to those in other Canadian cities

with at-large systems (such as Richmond or Surrey).

Finally, process tracing leads to nuanced conclusions about the influence of provincial

governments. Neither of the two mechanisms – the influence of minimum standards on

municipal decisions and the restrictions imposed by maximum standards – is supported by the

weight of the process tracing evidence, but there are substantial differences in their operation

across the cases. Setting minimum standards mattered only in two of the fifteen cases: building

policy in Brampton and landfill policy in Winnipeg. While there is still no municipal green

building policy in Brampton, the City reports publicly on the energy efficiency of its corporately-

owned buildings in order to comply with Ontario's Regulation 397. In Winnipeg, despite early

plans for landfill gas capture and utilization, the gas collection system was not installed until the

Province of Manitoba required it. In all other cases the local governments exceeded minimum

standards or adopted policy in areas not regulated by the provincial government. Consequently, we can conclude that minimum provincial requirements are not the cause of variation in local climate policy adoption.

In contrast, there is mixed support for the provincial restrictions mechanism across more than half of the cases. The evidence is inconsistent with the hypothesis in Toronto and Vancouver, where the municipal government actively opposed restrictive standards and found ways to circumvent them (including petitioning the Ontario government for special permissions to enact a green roof by-law, for example). In Winnipeg and Brampton, the evidence is more mixed – while both cities took advantage of incentives and subsidies provided by their respective provincial governments, there is no evidence that the local government in either city sought to enact policy that exceeded what was allowed by the Province. If the city did not seek to go beyond the provincial restriction, that restriction cannot be said to have been the factor that limited the impact of the policy.

Overall, the process tracing evidence shows that while it is not a perfect explanation, the central argument of this dissertation is a better explanation of municipal climate change mitigation policy adoption in Canada than the alternatives. This allows for adjudication among multiple causal mechanisms linking the same independent and dependent variables, and provides leverage to mitigate the risk that the observed relationships are the result of chance or spuriousness. The findings here suggest that analysis of climate policy benefits from disaggregation by specific issue area and show that not all political economy factors are created equal.

8.3 Limitations and Future Research Directions

This dissertation examines the adoption of climate policy, operationalized as four specific policy areas, across four Canadian cities. Although this work makes a number of important contributions, discussed below, there are limits to the generalizability of the findings due to the limited number of cases and the operationalization of the concept of "climate policy". Additionally, the process tracing methodology employed provides significant analytical leverage due to its focus on causal mechanisms, but presents challenges in the face of a probabilistic understanding of causality and hypotheses that do not have fully independent theoretical predictions.

First, "climate policy" is an extremely broad concept that has been operationalized here as policy in four specific areas related to greenhouse gas emissions. While these areas – landfill gas capture, fleet management, cycling infrastructure provide analytical leverage, they are neither the only policy areas related to greenhouse gas emissions, nor are they necessarily those that could have the greatest impact. Moreover, as defined in this dissertation, "climate policy" refers exclusively to policy aimed at *mitigating* climate change and does not include efforts to adapt to the effects of already increasing average temperatures.

Notably, this dissertation does not consider an area of decision making that has great potential to transform the behaviour of citizens and economic actors: land-use planning. Land-use planning affects a number of important greenhouse gas-related characteristics of cities, including the layout and design of streets and buildings, the distance people travel between home, work and leisure activities, and the most convenient and affordable energy and transportation options. Applying the theory developed in this dissertation to a greater range of policy issues – including land use planning and climate change adaptation – could help us to

better understand municipal decision-making and encourage a more rapid movement of cities towards a more sustainable urban form.

The research design of this project also constrains the generalizability of the findings. All of the cases explored here involve large Canadian cities. These cases were chosen to hold constant factors such as national context, but because of this the findings may not be applicable to smaller municipalities or those outside of Canada. Moreover, examining a few cases in depth provides causal leverage using process tracing methodology, but it also limits the practicality of comparing the causal effect of multiple variables across a broad range of cases. Future research could use large-N analysis to examine the decisions of cities across North America and perhaps beyond. European cities, with their historically more limited land-base have been thinking about sustainable land use for longer than their North American counterparts. Examination of differences across contexts may lead to useful insights.

Using process tracing methodology to test hypotheses at a mechanism level allowed me to explore the particular ways in which causal factors influence outcomes. I applied a probabilistic interpretation of causal inference based on a Bayesian framework that allowed me to logically distinguish between types of process tracing tests and their implications for the hypotheses. This approach is relatively new, and has been very rarely used outside of methodological discussions (but see Fairfield 2013 and Lengfelder 2012). In this dissertation, my use of Bayesian logic informed my understanding of empirical predictions and of the relationship of evidence to those predictions, but it was informal and imprecise. To some degree this is unavoidable – as Bennett (2015) argues, we cannot know for sure the probability of observing a piece of evidence in any case. However, future work that more explicitly and formally applies a

Bayesian logic within context of process tracing tests – ideally with a smaller number hypotheses than presented here – would help to solidify the usefulness of the approach.

Further, following the process tracing literature, in this dissertation I argue that we either observe evidence consistent with the empirical predictions of the hypothesis or we do not – the test passes or it fails. But in reality understanding passing and failing as dichotomous is often uncomfortable. For example, an observed action or statement might be "somewhat" consistent with the prediction. Classifying this as a simple "pass" or "fail" seems inappropriate – especially for tests other than straw-in-the-wind tests where such a decision may lead to quite large changes in our confidence in the hypothesis. Figuring out how to incorporate this kind of uncertainty into process tracing analysis could be an important contribution of future research.

8.4   Contributions

The main contributions of this dissertation are threefold. First, the new theory of municipal decision-making that I propose and test integrates insights from the comparative public policy literature into the study of urban politics. Second, I fill a methodological gap in the urban politics literature by employing a process tracing methodology that is both rigorous and explicit in its application. Third, I provide empirical evidence and analysis that challenges the overly-optimistic claims and predictions of much of the local sustainability literature.

Urban politics has long been studied separately from other strands of political science, both in the United States and in Canada (see Sapotichne et al. 2007; Eidelman and Taylor 2010; Taylor and Eidelman 2010). This dissertation applies insights from studies of comparative public policy and other subfields of political science to the study of local politics. Scholars from these various approaches have considered similar issues, but from different perspectives. For example, where Kingdon (1995) and Mintrom and Norman (2009) examine the role of policy

entreneurs – individuals who facilitate the adoption of policy – scholars of local government have explored political leadership (Stone 1995; Greasley and Stoker 2008) and the positioning of leaders in institutional structures (Mouritzen and Svara 2002). Here I bring these insights together in my emphasis on policy champions – individuals, who may or may not be political leaders, who facilitate policy adoption within varying institutional structures. Similarly, like Mouritzen and Svara (2002) who focus on variation in the institutional relationships between mayors, councils and administrators, I focus on how varying institutional arrangements – such as the presence of independent environment departments – influence the success of policy champions in achieving their climate policy goals.

A further contribution of this dissertation is the testing of the theory in four specific areas of climate change policy. I have shown that independent environment departments can explain why some Canadian cities have been more successful than others in adopting high impact climate policy. This theory may be usefully applied in the future to the study of other policies related to climate change, other environmental policies, or other issue areas that are not traditionally within the scope of municipal jurisdiction such as health policy.

Methodologically, this dissertation's explicit process tracing approach fills a gap in the urban politics literature which tends to be characterized primarily by single case studies, and secondarily (especially in the US) by large-N statistical analyses. I apply process tracing in a more systematic manner than is generally the case (but see Fairfield 2013; Lengfelder 2012). This both sheds light on the causal processes at play and provides a transparent record of how the evidence was translated into conclusions.

The findings of this dissertation also suggest several lessons for policymakers and citizens who seek to mitigate global climate change. First, I hope that this research will make

citizens and policymakers aware of the limitations of current climate policy adopted by local governments. Municipalities can adopt policy that is likely to substantially reduce greenhouse gas emissions, but often they do not do so. Policymakers often announce "green" actions and policies, but not all have an equal effect on greenhouse gas emissions. While emissions inventories, targets and strategies are important preliminary steps, climate policy that actually reduces greenhouse gases must go beyond this. The likely impact of municipal climate change policies – determined by the policies' ambition, scope and coercion – is an important consideration that is often overlooked in evaluations of local climate change actions. For example, that the City of Winnipeg reduced its corporate emissions by 20% below 1990 levels by 2009 is much less impressive when we discover that 18 percentage points of the reductions were from the sale of the municipal utility rather than actions to achieve actual emission reductions (Kives 2009). Citizens and policymakers concerned about the challenges of global climate change should be promoting the adoption of high impact climate policy at the local level.

Second, creating independent environment departments within municipal government administrations will increase the probability that cities will adopt high impact climate change policy. Municipal environment departments face criticism from those who promote climate policy and those who oppose it. Proponents may believe that a separate and independent environment departments delay the incorporation of environmental concerns into the decision-making of *all* departments and staff. Opponents in traditional departments may resent such a department's "encroachment" into their areas of jurisdiction. However, the evidence presented in this dissertation suggests that such departments have a strong influence on the adoption of high impact climate change policy. In other words, policymakers and citizens who seek to promote high impact climate change policy at the municipal level should advocate for the creation of

434

environment departments with broad mandates and the human and financial resources to facilitate interdepartmental coordination, conduct research, apply for external funding, and contribute to the efforts of other departments.

Finally, the results of this research suggest that despite limited action to date by municipalities, all is not lost. While the findings here suggest that provincial influence does not determine municipal climate policy decisions, the actions and policies of other levels of government create a framework in which municipalities act. Municipalities can play their part, but many of the decisions that will ultimately lead to significant greenhouse gas reductions – e.g., building codes, vehicle emission standards, and carbon pricing – are within the jurisdiction of other levels of government: provincial, national, and international. To reduce greenhouse gases sufficiently to avoid catastrophic climate change, *all* levels of government must act. Policymakers must not shirk their responsibilities for seeking climate change mitigation, and citizens must hold them to account.

From a practical perspective, I hope that my findings will lead to a more nuanced and realistic evaluation of the current and potential contributions of cities to global climate change mitigation. Cities are not the magic bullet, but if we are aware of the dynamics of climate change policy adoption at the local level we can, as both scholars and practitioners, increase the effectiveness of municipal governments' climate change policy choices.

References

Academic Works

Aall, Carlo et al. 2007. "The Scope of Action for Local Climate Policy: The Case of Norway" *Global Environmental Politics* 7(2): 83-101.

Aberbach, Joel et al. 1975. "Exploring Elite Political Attitudes: Some Methodological Lessons" *Political Methodology* 2: 1-27.

Aberbach, Joel D. and Bert A. Rockman. 2002. "Conducting and Coding Elite Interviews" *PS: Political Science and Politics* 35(4): 673-676.

Adelman, David E. and Kirsten H. Engel. 2008. "Reorienting State Climate Change Policies to Induce Technological Change" *Arizona Law Review* 50: 835.

Aldrich, Daniel P. 2009. "The 800-Pound *Gaijin* in the Room: Strategies and Tactics for Conducting Fieldwork in Japan and Abroad" *PS: Political Science and Politics* 42(2): 299-304.

Amy, Douglas J. 2000. *Behind the Ballot Box: A Citizen's Guide to Voting Systems* Westport, CT: Praeger.

Andrew, Caroline. 1995. "Provincial-Municipal Relations; or hyper-fractionalized quasi-subordination revisited" in *Canadian Metropolitics: Governing our Cities*, James Lightbody, ed. Toronto: Copp Clark, Ltd., 137-160.

Andrew, Caroline et al., eds. 2002. *Urban Affairs: Back on the Policy Agenda*. Montreal and Kingston: McGill-Queen's University Press.

Aultman-Hall, Lisa and M. Georgina Kaltenecker. 1999. "Toronto Bicycle Commuter Safety Rates" *Accident Analysis and Prevention* 31: 675-686.

Bachrach, Peter, and Morton S. Baratz. 1970. *Power and Poverty: Theory and Practice.* Oxford University Press.

Bachrach, Peter, and Morton S. Baratz. 1962. "Two Faces of Power" *American Political Science Review* 56(4): 947-952.

Bae, Jungah and Richard Feiock. 2013. "Forms of Government and Climate Change Policies in US Cities" *Urban Studies* 50(4): 776–788.

Baker, Dennis and Samuel Mosonyi. 2015. "By-Law Battles: Explaining Municipal-Federal and Municipal-Provincial Win-rates" Paper Presented at the Annual Meeting of the Canadian Political Science Association. Ottawa, ON. June 4, 2015.

Banfield, Edward C. and James Q. Wilson. 1963. *City Politics*. Cambridge: Harvard University Press and the MIT Press.

Beach, Derek, and Rasmus Brun Pedersen. 2013. *Process-Tracing Methods: Foundations and Guidelines*. Ann Arbor: University of Michigan Press.

Bennett, Andrew. 2015. "Appendix: Disciplining Our Conjectures" in *Process Tracing: From Metaphor to Analytic Tool*, Andrew Bennett and Jeffrey Checkel, eds. New York: Cambridge University Press, 276-298.

Bennett, Andrew. 2010. "Process Tracing and Causal Inference" in *Rethinking Social Inquiry: Diverse Tools, Shared Standards*, Henry E. Brady and David Collier, eds. Lanham, Maryland: Rowman and Littlefield Publishers, Inc.

Berry, Jeffrey M. 2010. "Urban Interest Groups" in *The Oxford Handbook of American Political Parties and Interest Groups,* Jeffrey M. Berry, L. Sandy Maisel and George C. Edwards III, eds. Oxford, UK: Oxford University Press.

Berry, Jeffrey M. and Kent E. Portney. 2013. "Sustainability and Interest Group Participation in City Politics" *Sustainability 5*, 2077-2097.

Betsill, Michele M. 2001. "Mitigating Climate Change in US Cities: Opportunities and Obstacles" *Local Environment* 6(4), 393-406.

Betsill, Michelle M. and Harriet Bulkeley. 2006. "Cities and the Multilevel Governance of Global Climate Change" *Global Governance;* 12(2), 141-159.

Bianchini, Laura and Federico Revelli. 2013. "Green Polities: Urban Environmental Performance and Government Popularity" *Economics & Politics* 25(1): 72-90.

Bird, Richard, and N. Enid Slack. 1993.*Urban Public Finance in Canada.* 2nd ed. Toronto: J. Wiley.

Boychuk, Gerard. 1998. Patchworks of Purpose: The development of provincial social assistance regimes in Canada. Montreal: McGill-Queen's University Press.

Brownstein, John S., Clark C. Freifeld, and Lawrence C. Madoff. 2009. "Digital Disease Detection - Harnessing the Web for Public Health Surveillance" *New England Journal of Medicine* 360: 2153-2157.

Bulkeley, Harriet. 2013. *Climate Change and the City.* London: Routledge.

Bulkeley, Harriet and Michele M. Betsill. 2003. *Cities and Climate Change: Urban Sustainability and Global Environmental Governance*. London: Routledge.

Bulkeley, Harriet and Michele M. Betsill. "Revisiting the Urban Politics of Climate Change" *Environmental Politics* 22(1): 136-154.

Carpenter, Daniel. 2001. *The Forging of Bureaucratic Autonomy: Networks, Reputations and Policy Innovation in Executive Agencies, 1862-1928.* Princeton: Princeton University Press.

Castán Broto, Vanesa and Harriet Bulkeley. 2013. "A Survey of Urban Climate Change Experiments in 100 Cities" *Global Environmental Change* 23(1): 92–102.

Castells, Manuel. 1978. *City, Class, and Power.* London: Macmillan.

Charney, Igal. 2005. "Property Developers and the Robust Downtown: The Case of Four Major Canadian Downtowns" *Canadian Geographer* 49(3): 301-312.

Clingermayer, James C., and Richard C. Feiock. 2001. *Institutional Constraints and Policy Choice: An Exploration of Local Governance.* Albany: SUNY Press.

Cobban, Timothy. 2003. "The Political Economy of Urban Redevelopment: Downtown Revitalization in London, Ontario, 1993-2002" *Canadian Journal of Urban Research* 12(2): 231-248.

Coenen, Frans and Marijke Menkveld. 2002. "The Role of Local Authorities in the Transition towards a Climate-Neutral Society" in *Global Warming and Social Innovation: The Challenge of a Climate-Neutral Society*, Marcel Kok et al., eds., 107-125.

Collier, David. 2011. "Understanding Process Tracing" *PS: Political Science and Politics* 44(4): 823-830.

Collier, David, Henry Brady and Jason Seawright. 2010. "Sources of Leverage in Causal Inference: Toward an Alternative View of Methodology" in *Rethinking Social Inquiry: Diverse Tools, Shared Standards*, Henry E. Brady and David Collier, eds. Lanham, Maryland: Rowman and Littlefield Publishers, 161-199.

Dahl, Robert. 1967. *Pluralist Democracy in the United States.* Chicago: Rand McNally.

Dale, Ann. 2001. *At the Edge: Sustainable Development in the 21st Century.* Vancouver, UBC Press.

Danko, Bart. 2013. *Terra Communis.* Film completed as part of the requirements for the JD/MA degree at York University. Accessed 24 September 2015. Available online at http://terracommunis.wordpress.com/watch-the-film/

DeHoog, R. H., and G.P. Whitaker. 1990. "Political Conflict or Professional Advancement: Alternative Explanations of City Manager Turnover" *Journal of Urban Affairs* 12(4), 361-77.

Denters, Bas and Karen Mossberger. 2006. "Building Blocks for a Methodology for Comparative Urban Political Research" *Urban Affairs Review* 41:550.

DeShazo, J.R. and J. Freeman. 2007. "Timing and Form of Federal Regulation: The Case of Climate Change" *University of Pennsylvania Law Review* 155: 1499-1561.

DiGaetano, Alan and John Klemanski. 1999. *Power and City Governance: Comparative Perspectives on Urban Development*. Minneapolis, MN: University of Minnesota Press.

DiGaetano, Alan and Elizabeth Strom. 2003. "Comparative Urban Governance: An Integrated Approach" *Urban Affairs Review* 38(3): 356-395.

Docherty, David. 1997. *Mr. Smith Goes to Ottawa: Life in the House of Commons.* Vancouver: UBC Press.

Dodman, David. 2009. "Blaming Cities for Climate Change? An Analysis of Urban Greenhouse Gas Emissions Inventories" *Environment and Urbanization* 21(1): 185-201.

Doern, Bruce and Richard W. Phidd. 1983. *Canadian Public Policy.* Toronto: Methuen.

Dolowitz, David P. and David Marsh. 2000. "Learning from Abroad: The Role of Policy Transfer in Contemporary Policy-Making" *Governance: An International Journal of Policy and Administration* 13:1, 5-24.

Dolšak, Nives. 2009. "Climate Change Policy Implementation: A Cross-Sectional Analysis" *Review of Policy Research* 26(5): 551-570.

Downs, Anthony. 1972. "Up and Down with Ecology: The Issue Attention Cycle." *Public Interest* 28: 38-50.

Eidelman, Gabriel and Zack Taylor. 2010. "Canadian Urban Politics: Another 'Black Hole'?" *Journal of Urban Affairs* 32(3): 305-320.

Elkin, Stephen L. 1987. *City and Regime in the American Republic.* Chicago: University of Chicago Press.

Emerson, Robert et al. 2001. "Participant Observation and Fieldnotes" in *Handbook of Ethnography,* Paul Atkinson et al., eds. New York: Sage, 352-368.

Engel, Kirsten. 2006. "State and Local Climate Change Initiatives: What is Motivating State and Local Governments to Address a Global Problem and What Does This Say about Federalism and Environmental Law?" *The Urban Lawyer* 38(4): 1015-1029.

Esping-Andersen, Gøsta. 1990. *The Three Worlds of Welfare Capitalism*. Princeton, N.J: Princeton University Press.

Fainstein, Norman I. and Susan S. Fainstein. 1983. *Regime Strategies, Communal Resistance, and Economic Forces*. New York, NY: Longman.

Fairfield, Tasha. 2013. "Going Where the Money Is: Strategies for Taxing Economic Elites in Unequal Democracies" *World Development 47* (221–236): 42–57.

Feiock, Richard C. et al. 2014. "Local Sustainability: Agency Venues and Business Group Access" *Urban Affairs Review* 50(2): 157-179.

Feiock, Richard C. et al. 2001. "Political Conflict, Fiscal Stress and Administrative Turnover in American Cities" *State and Local Government Review* 33(2): 101-8.

Feiock, Richard C. and James Clingermayer. 1986. "Municipal Representation, Executive Power and Economic Development Policy Adoption" *Policy Studies Journal* 15: 211-230.

Feiock, Richard C. and Christopher Stream. 1998. "Explaining the Tenure of Local Government Managers" *Journal of Public Administration Research and Theory* 8(1): 117-30.

Feiock, Richard C. and Jonathan P. West. 1993. "Testing Competing Explanations for Policy Adoption: Municipal Solid Waste Recycling Programs" *Political Research Quarterly* 46(2): 399-419.

Fiorina, Morris. 1981. *Retrospective Voting in American National Elections.* New Haven: Yale University Press.

Fitzgerald, Joan. 2010. *Emerald Cities: Urban Sustainability and Economic Development.* New York: Oxford University Press.

Gainsborough, Juliet F. 2008. "A Tale of Two Cities: Civic Culture and Public Policy in Miami" *Journal of Urban Affairs* 30(4): 419-435.

Garber, Judith and David Imbroscio. 1996. "'The Myth of the North American City' Reconsidered: Local Constitutional Regimes in Canada and the United States" *Urban Affairs Review* 31(5): 595-624.

Gaventa, John. 1980. *Power and Powerlessness: Quiescence and Rebellion in an Appalachian Valley.* Oxford: Clarendon Press.

Geddes, Barbara. 1990. "How the Cases You Choose Affect the Answers You Get: Selection Bias in Comparative Politics" *Political Analysis* 2:1, 131-150.

George, Alexander and Andrew Bennett. 2005. *Case Studies and Theory Development in the Social Sciences.* Cambridge, MA: MIT Press.

Gertler, Meric S. 1990. "Economic Development" in Richard A. Loreto and Trevor Price, eds. *Urban Policy Issues: Canadian Perspectives.* Toronto: McClelland and Stewart, 35-57.

Gissendanner, Scott. 2004. "Mayors, Governance Coalitions, and Strategic Capacity: Drawing Lessons from Germany for Theories of Urban Governance" *Urban Affairs Review* 40:1, 44-77.

Gissendanner, Scott. 2003. "Methodology Problems in Urban Governance Studies" *Environment and Planning C: Government and Policy* 21: 663-685

Glaeser, Edward L. et al. 2001. "Consumer city" *Journal of Economic Geography* 1(1): 27-50.

Glaeser, Edward L. and Matthew Kahn. 2008. The Greenness of Cities: Carbon Dioxide Emissions and Urban Development" Working Paper No. 14238. Cambridge, MA: National Bureau of Economic Research.

Globalization and World Cities (GaWC) Research Network. 2016. "The World According to GaWC" Accessed 27 January 2016. Available online at http://ww.lboro.ac.uk/gawc/gawcworlds.html

Goertz, Gary and James Mahoney. 2012. *A Tale of Two Cultures: Qualitative and Quantitative Research in the Social Sciences.* Princeton: Princeton University Press.

Goldberg, Michael and John Mercer. 1986. *The Myth of the North American City: Continentalism Challenged.* Vancouver: UBC Press.

Goldstein, Judith and Robert Keohane. 1993. "Ideas and Foreign Policy: An Analytical Framework" in *Ideas and Foreign Policy: Beliefs, Institutions, and Political Change,* Judith Goldstein and Robert Keohane, eds. Ithaca: Cornell University Press, 3-30.

Good, Kristin. 2009. *Municipalities and Multiculturalism: The Politics of Immigration in Toronto and Vancouver.* Toronto: University of Toronto Press.

Google. 2004. Google Trends (formerly Google Insights for Search). Available online at http://www.google. com/trends. Last accessed January 13, 2016.

Gordon, David. 2008. *Lament for a Network: A Comparative Case Study Analysis of the Impacts of the Partners for Climate Protection Network on Climate Change Policy in Two Canadian Cities.* M.A. Thesis. Winnipeg, MB: University of Manitoba.

Gore, Christopher. 2010. "The Limits and Opportunities of Networks: Municipalities and Canadian Climate Change Policy" *Review of Policy Research* 27(1): 27-46.

Gore, Christopher and Pamela Robinson. 2009. "Local Government Response to Climate Change: Our Last, Best Hope?" in *Changing Climates in North American Politics: Institutions, Policymaking and Multilevel Governance*, Henrik Selin and Stacy D. VanDeveer, eds. Cambridge, MA: MIT Press, 137-158.

Gore, Christopher et al. 2012. "Governance and Climate Change: Assessing and Learning from Canadian Cities" in *Cities and Climate Change: Responding to an Urgent Agenda*, Volume 2. Washington, DC: World Bank, 538-563.

Graham, Katherine et al. 1998. *Urban Governance in Canada: Representation, Resources and Restructuring.* Toronto: Harcourt, Brace and Company.

Granka, Laura A. 2010. "Measuring Agenda Setting with Online Search Traffic: Influences of Online and Traditional Media" Presented at the Annual Meeting of the American Political Science Association, September 2-5, 2010.

Greasley, Stephen and Gerry Stoker. 2009. "Urban Political Leadership" in *Theories of Urban Politics,* 2nd ed., Jonathan Davies and David Imbroscio, eds. London: Sage, 125-136.

Gurr, Ted R. and Desmond S. King. 1987. *The State and the City*. Chicago: University of Chicago Press.

Hall, Peter. 1993. "Policy Paradigms, Social Learning and the State: The Case of Economic Policy Making in Britain" *Comparative Politics* 25: 275-296.

Harding, Alan. 2009. "The History of Community Power" in *Theories of Urban Politics,* 2nd ed., Jonathan Davies and David Imbroscio, eds. London: Sage, 27-39.

Harding, Alan. 1995. "Elite Theory and Growth Machines" in *Theories of Urban Politics,* 1st ed., David Judge, Gerry Stoker and Harold Wolman, eds. London: Sage, 35-53.

Harding, Alan. 1994. "Urban Regimes and Growth Machines: Towards a Cross-National Research Agenda" *Urban Affairs Quarterly* 29(3): 356-382.

Harrison, Kathryn. 2013. "Federalism and Climate Policy Innovation: A Critical Reassessment" *Canadian Public Policy* 39: S95-S108.

Harrison, Kathryn. 2012. "A Tale of Two Taxes: The Fate of Environmental Tax Reform in Canada" *Review of Policy Research* 29(3): 383-407.

Harrison, Kathryn. 2008. "Challenges and Opportunities in Canadian Climate Change Policy" in Steven Bernstein et al., eds., *A Globally Integrated Climate Policy for Canada*. Toronto: University of Toronto Press, 336-342.

Harrison, Kathryn. 2007. "The Road Not Taken: Climate Change Policy in Canada and the United States" *Global Environmental Politics* 7(4): 92-117.

Harrison, Kathryn. 2000. "The Origins of National Standards: Comparing Federal Government Involvement in Environmental Policy in Canada and the United States" in *Managing the Environmental Union: Intergovernmental Relations and Environmental Policy in Canada*, Patrick C. Fafard and Kathryn Harrison, eds. Kingston, Ontario: School of Policy Studies, Queen's University, 49-80.

Harrison, Kathryn. 1996. *Passing the Buck: Federalism and Canadian Environmental Policy.* Vancouver: UBC Press.

Harrison, Kathryn and Werner Antweiler. 2003. "Incentives for Pollution Abatement: Regulation, Regulatory Threats, and Non-Governmental Pressures" *Journal of Policy Analysis and Management* 22(3): 361-382.

Harvey, David. 1989. *The Condition of Postmodernity.* Oxford: Blackwell.

Heclo, Hugh. 1974. *Modern Social Politics in Britain and Sweden: From Relief to Income Maintenance.* New Haven: Yale University Press.

Hicklin, Alisa and Erik Godwin. 2009. "Agents of Change: The Role of Public Managers in Public Policy" *Policy Studies Journal* 37(1): 13–20.

Higgins, Donald J. H. 1986. *Local and Urban Politics in Canada.* Toronto: Gage.

Hill, Jennifer. 2010. "Contested Streets: A Case Study Approach to Understanding Bicycle and Car Politics in Toronto, Canada" Masters Thesis. Department of Geography and Planning. University of Toronto. Toronto, Ontario.

Hoberg, George. 1997. "Governing the Environment: Comparing Canada and the United States" in *Degrees of Freedom: Canada and the United States in a Changing World*, Keith Banting et al., eds. Montreal and Kingston: McGill-Queen's University Press.

Hooghe, Liesbet and Gary Marks. 2003. "Unraveling the Central State, but How? Types of Multi-level Governance" *American Political Science Review* 97(2), 233-243.

Horak, Martin. 2012. "Multilevel Governance in Toronto: Success and Failure in Canada's Largest City" in Martin Horak and Robert Young, eds. Sites of Governance: Multilevel Governance and Policy Making in Canada's Big Cities. Montreal and Kingston: McGill-Queen's University Press.

Horak, Martin and Robert Young, eds. 2012. *Sites of Governance: Multilevel Governance and Policy Making in Canada's Big Cities.* Montreal and Kingston: McGill-Queen's University Press.

Horn, Murray. 1995. *The Political Economy of Public Administration: Institutional Choice in the Public Sector*. New York, NY: Cambridge University Press.

Houle, David et al. 2015. "The Comparative Politics of Sub-Federal Cap-and-Trade: Implementing the Western Climate Initiative" *Global Environmental Politics* 15(3): 49-73

Howlett, Michael and Richard M. Walker. 2012. "Public Managers in the Policy Process: More Evidence on the Missing Variable?" *Policy Studies Journal* 40(2): 211-233.

Huber, Gregory. 2007. *The Craft of Bureaucratic Neutrality*. New York: Cambridge University Press.

Huber, John D. and Charles R. Shipan. 2002. *Deliberate Discretion: The Institutional Foundations of Bureaucratic Autonomy*. New York: Cambridge University Press.

Humphreys, Macartan and Alan M. Jacobs. 2015. "Mixing Methods: A Bayesian Approach" *American Political Science Review* 109(4): 653-673.

Hunter, Floyd. 1953. *Community Power Structure: A Study of Decision Makers.* Chapel Hill: University of North Carolina Press.

Imbroscio, David. 1997. *Reconstructing City Politics: Alternative Economic Development and Urban Regimes.* Thousand Oaks, CA: Sage Publications.

Isin, Engin F. 1995. "The Origins of Canadian Municipal Government" in *Canadian Metropolitics: Governing our Cities*, James Lightbody, ed. Toronto: Copp Clark, Ltd., 51-91.

Isin, Engin F. 1992. *Cities without Citizens: Modernity of the City as a Corporation.* Montreal: Black Rose Books.

Jaccard, Mark. 2005. *Sustainable Fossil Fuels: The Unusual Suspect in the Quest for Clean and Enduring Energy.* New York, NY: Cambridge University Press.

Jaccard, Mark et al. 1997. "From Equipment to Infrastructure: Community Energy Management and Greenhouse Gas Emission Reduction" *Energy Policy* 25:1065-1074.

Jacobs, Alan. 2011. *Governing for the Long Term: Democracy and the Politics of Investment.* New York: Cambridge University Press.

Jacobs, Alan. 2008. "The Politics of When: Redistribution, Investment and Policy Making in the Long Term" *British Journal of Political Science* 38: 193-220.

Jaffe, Adam and Robert Stavins. 1994. "Energy-Efficiency Investments and Public Policy" *The Energy Journal* 15(2): 43-65.

John, Peter and Alistair Cole. 1998. "Urban Regimes and Local Governance in Britain and France Policy Adaption and Coordination in Leeds and Lille" *Urban Affairs Review* 33(3): 382-404.

Judge, David. 1995. "Pluralism" in *Theories of Urban Politics,* 1st ed., David Judge, Gerry Stoker and Harold Wolman, eds. London: Sage, 13-34.

Keating, Michael. 1995. "Size, Efficiency and Democracy: Consolidation, Fragmentation and Public Choice" in *Theories of Urban Politics,* 1st ed., David Judge, Gerry Stoker and Harold Wolman, eds. London: Sage, 117-134.

Keating, Michael. 1991. *Comparative Urban Politics: Power and the City in the United States, Canada, Britain and France.* Aldershot, UK: Edward Elgar.

Kennedy, Christopher et al. 2009. "Greenhouse Gas Emissions from Global Cities" *Environmental Science & Technology* 43(19): 7297-7302.

King, Gary et al. 1994. *Designing Social Inquiry: Scientific Inference in Qualitative Research.* Princeton, NJ: Princeton University Press.

Kingdon, John W. 1995. *Agendas, Alternatives, and Public Policies,* 2nd ed. New York: HarperCollins.

Kjaer, Anne Mette. 2009. "Governance and the Urban Bureaucracy" in *Theories of Urban Politics,* 2nd ed., Jonathan Davies and David Imbroscio, eds. London: Sage, 137-152.

Koski, Chris. 2010. "Greening America's Skylines: The Diffusion of Low-Salience Policies" *Policy Studies Journal* 38 (1): 93-117.

Koski, Chris and Taedong Lee. 2014. "Policy by Doing: Formulation and Adoption of Policy through Government Leadership" *Policy Studies Journal* 42(1): 30–54.

Kousky, Carolyn and Stephen H. Schneider. 2003. "Global Climate Policy: Will Cities Lead the Way?" *Climate Policy* 3:359-372.

Krause, Rachel M. 2013. "The Motivations Behind Municipal Climate Engagement: An Empirical Assessment of How Local Objectives Shape the Production of a Public Good" *Cityscape* 15 (1):125–42.

Krause, Rachel M. 2012. An Assessment of the Impact that Participation in Local Climate Networks has on Cities' Implementation of Climate, Energy, and Transportation Policies *Review of Policy Research* 29:585-604.

Krause, Rachel M. 2011a. "Symbolic or Substantive Policy? Measuring the Extent of Local Commitment to Climate Protection" *Environment and Planning C: Government and Policy* 29: 46-62.

Krause, Rachel M. 2011b. "Policy Innovation, Intergovernmental Relations, and the Adoption of Climate Protection Initiatives by US Cities" *Journal of Urban Affairs* 33(1): 45-60.

Krause, Rachel M. et al. 2014. "The Administrative Organization of Sustainability within Local Government" *Journal of Public Administration Research and Theory.* Advance Access published August 18, 2014, doi: 10.1093/jopart/muu032

Lee, Taedong. 2015. *Global Cities and Climate Change: The Translocal Relations of Environmental Governance.* New York: Routledge.

Lefebvre, Henri. 1991. *The Production of Space.* Oxford: Blackwell.

Lengfelder, Christina. 2012. "Triangular Development Cooperation: How Emerging Powers Change the Landscape of Development Cooperation" PhD Dissertation. Universidad Catolica de Chile.

Leo, Christopher. 2003. "Are There Urban Regimes in Canada? Comment on: Timothy Cobban's 'The Political Economy Of Urban Redevelopment: Downtown Revitalization In London, Ontario, 1993-2002'" *Canadian Journal of Urban Research* 12(2): 344.

Leo, Christopher. 1977. *The Politics of Urban Development: Canadian Urban Expressway Disputes*. Institute of Public Administration of Canada.

Lewis, David E. 2003. *Presidents and the Politics of Agency Design: Political Insulation in the United States Government Bureaucracy, 1946–1997*. Redwood City, CA: Stanford University Press.

Lieberson, Stanley. 1991. "Small-Ns and Big Conclusions: An Examination of the Reasoning in Comparative Studies based on a Small Number of Cases" *Social Forces* 70(2): 307-320.

Lightbody, James. 2006. *City Politics, Canada.* Peterborough, ON: Broadview Press.

Lightbody, James, ed. 1995. *Canadian Metropolitics: Governing our Cities*. Toronto: Copp Clark.

Lindblom, Charles. 1982. "The Market as Prison" *Journal of Politics* 44: 324-226.

Lindblom, Charles. 1977. *Politics and Markets.* New York: Basic.

Lineberry, Robert L. and Edmund P. Fowler. 1967. "Reformism and Public Policies in American Cities" *American Political Science Review* 61(3): 701-716.

Logan, John and Harvey Molotch. 1987. *Urban Fortunes: The Political Economy of Place.* Berkeley: University of California Press.

Lubell, Mark et al. 2009. "City Adoption of Environmentally Sustainable Policies in California's Central Valley" *Journal of the American Planning Association* 75(3): 293-308.

Lupien, Yvan. 2008. "An Alternative to Traditional Bureaucratic Fleet Management" *Journal of Public Works and Infrastructure* 1(4): 349-360.

Lutsey, Nicholas and Daniel Sperling. 2008. "America's Bottom-Up Climate Change Mitigation Policy" *Energy Policy* 36: 673-685.

Lyon, Thomas P. and John W. Maxwell. 2007. "Environmental Public Voluntary Programs Reconsidered" *Policy Studies Journal* 35(4): 723-750.

Macbeth, Andrew G. 1999. "Bicycle lanes in Toronto" *Institute of Transportation Engineers Journal* 69(4):38.

Magnusson, Warren. 2005. "Are Municipalities Creatures of the Provinces?" *Journal of Canadian Studies* 39(2): 5-29.

Mahoney, James. 2015. "Process Tracing and Historical Explanation" *Security Studies* 24(2): 200-218.

Mahoney, James. 2012. "The Logic of Process Tracing Tests in the Social Sciences" *Sociological Methods and Research* 41(4): 570-597.

May, Peter J. and Chris Koski. 2007. "State Environmental Policies: Analyzing Green Building Mandates" Review of Policy Research 24(1): 49-65.

Mayhew, David. 1974. *Congress: The Electoral Connection.* New Haven: Yale University Press.

McAllister, Mary Louise. 2004. *Governing Ourselves: The Politics of Canadian Communities.* Vancouver, UBC Press.

Mccallum, Malcolm L. and Gwendolyn W. Bury. 2013. "Google Search Patterns Suggest Declining Interest in the Environment" *Biodiversity and Conservation* 22(6-7): 1355-1367.

Meier, Kenneth J. "Policy Theory, Policy Theory Everywhere: Ravings of a Deranged Policy Scholar" *Policy Studies Journal* 37(1): 5-11.

Meier, Kenneth J. and Laurence J. O'Toole. 2006. "Political Control versus Bureaucratic Values: Reframing the Debate" *Public Administration Review* 66(2): 177-192.

Mellon, Jonathan. 2014. "Internet Search Data and Issue Salience: The Properties of Google Trends as a Measure of Issue Salience" *Journal of Elections, Public Opinion and Parties* 24(1): 45-72.

Mellon, Jonathan. 2013. "Where and When Can We Use Google Trends to Measure Issue Salience?" *PS: Political Science and Politics* 46(2): 280-290.

Miller, Lauren J. 2008. "Green Roof Policy: A Sustainable Space to Grow?" Masters Thesis. Tufts University, Medford, Massachusetts.

Mintrom, Michael, and Phillipa Norman. 2009. "Policy Entrepreneurship and Policy Change." *Policy Studies Journal* 37(4): 649-67.

Moe, Terry. 1984. "The New Economics of Organization" *American Journal of Political Science* 28: 739-777.

Molotch, Harvey. 1976. "The City as a Growth Machine" *American Journal of Sociology* 82(2): 309-330.

Moore, Aaron A. 2013. *Planning Politics in Toronto: The Ontario Municipal Board and Urban Development.* Toronto: University of Toronto Press.

Moore, Jennie Lynn. 1994. *What's stopping sustainability? Barriers to implementation of Clouds of Change.* MA Thesis. University of British Columbia. Vancouver, BC.

Morgan, David R. and John P. Pelissero. 1980. "Urban Policy: Does Political Structure Matter?" American Political Science Review 74(4): 999-1006.

Mossberger, Karen. 2009. "Urban Regime Analysis" in *Theories of Urban Politics,* 2nd ed., Jonathan Davies and David Imbroscio, eds. London: Sage, 40-54

Mouritzen, Poul Erik and James H. Svara. 2002. *Leadership at the Apex: Politicians and Administrators in Western Local Governments.* Pittsburgh: University of Pittsburgh Press.

Nass, Clifford I. 1986. "Bureaucracy, Technical Expertise, and Professionals: A Weberian Approach" *Sociological Theory* 4(1): 61-70.

Newig, Jens. 2004. "Public Attention, Political Action: The Example of Environmental Regulation" *Rationality and Society* 16: 149-190.

Nicol, Heather N. 1997. "'All the Towns of the Dominion': Canada's Evolving Urban Framework" in *Politics of the City: A Canadian Perspective,* Timothy L. Thomas, ed. Scarborough, ON: ITP Nelson, 17-32.

Niskanen, William. 1971. *Bureaucracy and Representative Government.* Chicago: Aldine Atherton.

Nowlin, Matthew C. 2011. "Theories of the Policy Process: State of the Research and Emerging Trends" *Policy Studies Journal* 39(1): 41-60.

Neumann, Jana. 2008. "An Analysis of Bike Lane Planning and Building in Toronto" Current Issues Paper. Department of Geography, Program in Planning. University of Toronto. Toronto, Ontario.

O'Donohue, Tony. 2005. *The Tale of a City: Re-engineering the Urban Environment.* Toronto, ON: Dundurn Group.

O'Flynn, Patrick Eamon. 2011. *The Evolving Role of the Municipal Chief Administrative Officer Position in Canada, 1985-2010.*MA Thesis. University of Guelph.

Olson, Mancur. 1965. *The Logic of Collective Action.* Cambridge, MA: Harvard University Press.

Oltra, Christian. 2011. Stakeholder Perceptions of Biofuels from Microalgae. *Energy Policy* 39(3): 1774-1781.

Ostrom, Elinor et al., eds. 2002. *The Drama of the Commons*. Washington D.C.: National Academy Press.

Ostrom, Vincent. 1973. "Can Federalism Make a Difference?" *Publius* 3(2), 197-237.

Pal, Leslie. 1993. *Interests of State: The Politics of Language, Multiculturalism and Feminism in Canada.* Montreal: McGill-Queen's University Press.

Paquet, Mireille. 2013. *Les provinces et la fédéralisation de l'immigration au Canada, 1990-2010.* PhD Dissertation. University of Montreal.

Peterson, Paul E. 1981. *City Limits*. Chicago: University of Chicago Press.

Picketts, Ian et al. 2014. "Incorporating climate change adaptation into local plans" *Journal of Environmental Planning and Management* 57(7): 984-1002.

Pierre, Jon, and B. Guy Peters. 2005. *Governing Complex Societies: Trajectories and Scenarios.* New York: Palgrave Macmillan.

Pierre, Jon. 1999. "Models of Urban Governance: The Institutional Dimension of Urban Politics" *Urban Affairs Review* 34(3): 372-396.

Pierson, Paul. 2004. *Politics in Time: History, Institutions and Social Analysis.* Princeton, NJ: Princeton University Press.

Plunkett, Thomas J. and Betts, George M. 1978. *The Management of Canadian Urban Government: A basic text for a course in urban management.* Kingston, ON: Institute of Local Government.

Polsby, Nelson W. 1980. *Community Power and Political Theory: A Further Look at Problems of Evidence and Inference.* New Haven: Yale University Press.

Portney, Kent E. 2013. *Taking Sustainable Cities Seriously: Economic Development, the Environment, and Quality of Life in American Cities.* 2nd edition. Cambridge, MA: MIT Press.

Portney, Kent E. and Jeffrey M. Berry. 2014. "Civic Society and Sustainable Cities" *Comparative Political Studies* 47: 395.

Portney, Kent E. and Jeffrey M. Berry. 2010. "Participation and the Pursuit of Sustainability in U.S. Cities" *Urban Affairs Review* 46(1): 119-139.

Prado-Lorenzo, José-Manuel et al. 2012. "Sustainable Cities: Do Political Factors Determine the Quality of Life?" *Journal of Cleaner Production* 21(1): 34-44.

Pucher, John et al. 2009. "Infrastructure, programs, and policies to increase bicycling: An international review" *Preventive Medicine* 50: S106-S125.

Pucher, John et al. 2011. "Bicycling renaissance in North America? An update and re-appraisal of cycling trends and policies" *Transportation Research Part A* 45: 451-475.

Pucher, John et al. 1999. "Bicycling renaissance in North America? Recent Trends and Alternative Policies to Promote Bicycling" *Transportation Research Part A* 33: 625-654.

Rabe, Barry. 2011. "Contested Federalism and American Climate Policy" *Publius* 41: 494-521.

Rabe, Barry. 2007. "Beyond Kyoto: Climate Change Policy in Multilevel Governance Systems" *Governance: An International Journal of Policy, Administration, and Institutions* 20(3): 423-444.

Rabe, Barry. 2006. "Challenges to Climate Policy Development in Canada's Multilevel Governance System" in *Comparative Trends in Public Management: Smart Practices Toward Blending Policy and Administration.* Colin Campbell et al., eds. Ottawa: Canada School of Public Service, 71-84.

Rabe, Barry. 2004. *Statehouse and Greenhouse: The Emerging Politics of American Climate Change Policy.* Washington, DC: Brookings Institution Press.

Rabe, Barry and Christopher Borick. 2012. "Carbon Taxation and Policy Labeling: Experiences from American States and Canadian Provinces" *Review of Policy Research* 29(3): 358-32.

Ramirez de la Cruz, Edgar E. 2009. "Local Political Institutions and Smart Growth: An Empirical Study of the Politics of Compact Development" *Urban Affairs Review* 45(2): 218-246.

Reese, Laura A. and Raymond A. Rosenfeld. 2004. "Local Economic Development in the United States and Canada: Institutional Policy Approaches" *American Review of Public Administration* 34(3): 277-292.

Reilly, Shauna, Sean Richey, J. Benjamin Taylor. 2012. "Using Google Search Data for State Politics Research An Empirical Validity Test Using Roll-Off Data" *State Politics & Policy Quarterly* 12(2):146-159.

Reis, Ben and John Brownstein. 2010. "Measuring the Impact of Health Policies Using Internet Search Patterns: The Case of Abortion" *BMC Public Health* 10(1): 514.

Ripberger, Joseph T. 2011. "Capturing Curiosity: Using Internet Search Trends to Measure Public Attentiveness" *Policy Studies Journal* 39(2): 239-259.

Rivera, Sharon Werning et al. 2002. "Interviewing Political Elites: Lessons from Russia" *PS: Political Science and Politics* 35(4): 683-688.

Robinson, Pamela J. 2000. *Canadian Municipal Response to Climate Change: A Framework for Analyzing Barriers.* PhD Dissertation. University of Toronto. Toronto, ON.

Robinson, Pamela J. and Christopher D. Gore. 2010. "A National, Longitudinal Analysis of Canadian Municipal Response to Climate Change" Paper presented at the Annual Meeting of the Canadian Political Science Association. Montreal, Québec.

Robinson, Pamela J. and Christopher D. Gore. 2005. "Barriers to Canadian Municipal Responses to Climate Change" *Canadian Journal of Urban Research* 14(1): 102-120.

Rohlfing, Ingo. 2012. *Case Studies and Causal Inference: An Integrative Framework.* Research Methods Series. New York: Palgrave Macmillan.

Rourke, Francis E. 1979. "Bureaucratic Autonomy and the Public Interest" *American Behavioral Scientist* 22: 537.

Sancton, Andrew. 2011. *Canadian Local Government: An Urban Perspective.* Toronto: Oxford University Press.

Sancton, Andrew. 2009. "Introduction" in *Foundations of Governance: Municipal Government in Canada's Provinces*, Andrew Sancton and Robert Young, eds. Toronto: University of Toronto Press, 3-19.

Sancton, Andrew. 2008. *The Limits of Boundaries: Why City-Regions Cannot Be Self-Governing.* Montreal and Kingston: McGill-Queen's University Press.

Sancton, Andrew. 1994a. *Governing Canada's City-regions: Adapting Form to Function.* Montreal: Institute for Research on Public Policy.

Sancton, Andrew. 1994b. "Mayors as Political Leaders" in *Leaders and Leadership in Canada*, Maureen Mancuso et al., eds. Toronto: Oxford University Press. 174-187.

Sancton, Andrew and Robert Young, eds. 2009. *Foundations of Governance: Municipal Government in Canada's Provinces.* Toronto: University of Toronto Press.

Sapotichne, Joshua, Bryan D. Jones and Michelle Wolfe. 2007. "Is Urban Politics a Black Hole? Analyzing the Boundary Between Political Science and Urban Politics" *Urban Affairs Review* 43(1): 76-106.

Sassen, Saskia. 2006. *Cities in a World Economy*, 3rd ed. Thousand Oaks, CA: Pine Forge Press.

Scharkow, Michael and Jens Vogelgesang. 2011. "Measuring the Public Agenda Using Search Engine Queries" *International Journal of Public Opinion Research* 23(1): 104-113.

Scharpf, Fritz. 1997. *Games Real Actors Play: Actor-Centred Institutionalism in Policy Research.* Boulder, CO: Westview Press.

Scharpf, Fritz. 1988. "The Joint-Decision Trap: Lessons from German Federalism and European Integration" *Public Administration* 66: 239-278.

Schneider, Mark and Paul Teske. 1992. "Toward A Theory of the Political Entrepreneur: Evidence from Local Government" *American Political Science Review* 86(3): 737-747.

Sharp, Elaine B. et al. 2011. "Understanding Local Adoption and Implementation of Climate Change Mitigation Policy" *Urban Affairs Review* 47(3):433-457.

Sellers, Jeffrey M. 2002. *Governing from Below: Urban Regions and the Global Economy.* Cambridge: Cambridge University Press.

Siemiatycki, Matti et al. "The Politics of Bicycle Lane Implementation: The Case of Vancouver's Burrard Street Bridge" *International Journal of Sustainable Transportation* Advance Access published September 26, 2014. doi: 10.1080/15568318.2014.890767

Simon, Herbert A. 1947. *Administrative Behavior.* New York: Free Press.

Sinclair, Betsy and Michael Wray. 2015. "Googling the Top Two: Information Search in California's Top Two Primary" *California Journal of Politics and Policy* 7(1): 1-12.

Skocpol, Theda. 1985. "Bringing the State Back In: Strategies of Analysis in Current Research" in *Bringing the State Back In*, Peter Evans et al., eds. Cambridge: Cambridge University Press, 1-30.

Slack, Enid et al. 2006. "Large Cities Under Stress: Challenges and Opportunities" Report for the External Advisory Committee on Cities and Communities. Government of Canada.

Smith, Alison and Zachary Spicer. "A New Day or Déjà-Vu? Local Autonomy in Canada" Paper Presented at the Annual Meeting of the Canadian Political Science Association. Ottawa, ON. June 4, 2015.

Soroka, Stuart and Christopher Wlezein. 2005. "Opinion Representation and Policy Feedback: Canada in Comparative Perspective" *Canadian Journal of Political Science* 37(3), 1-29.

Stewart, R.B. 2008. "States and Cities as Actors in Global Climate Regulation: Unitary vs. Plural Architectures" *Arizona Law Review* 50(3): 681.

St. George, Robert. 2007. "Winnipeg Paves the Way in Fleet Management" *American Public Works Association Reporter* (August): 1-4.

Stone, Clarence N. 1995. "Political Leadership in Urban Politics" in *Theories of Urban Politics,* 1st ed., David Judge, Gerry Stoker and Harold Wolman, eds. London: Sage, 96-116.

Stone, Clarence N. 1989. *Regime Politics: Governing Atlanta*. Lawrence, KS: University Press of Kansas.

Strom, Elizabeth. 2008. "Rethinking the Politics of Downtown Development" *Journal of Urban Affairs* 30(1): 37-61.

Strøm, Kaare. 2000. "Delegation and Accountability in Parliamentary Democracies" *European Journal of Political Research* 37(3): 261-289.

Svara, James. 1999. "Conflict and Cooperation in Elected-Administrative Relations in Large Council-Manager Cities" *State and Local Government Review* 31(3): 173-89.

Swearingen, C. Douglas and Joseph T. Ripberger. 2014. "Google Insights and US Senate Elections: Does Search Traffic Provide a Valid Measure of Public Attention to Political Candidates?" *Social Science Quarterly* 95(3): 882-893.

Tansey, Oísin. 2007. "Process Tracing and Elite Interviewing: A Case for Non-probability Sampling" *PS: Political Science & Politics* 40(4): 765-772.

Taylor, Zack and Gabriel Eidelman. 2010. "Canadian Political Science and the City: A Limited Engagement" *Canadian Journal of Political Science* 43(4): 961-981.

Teodoro, Manuel. 2009. "Bureaucratic Job Mobility and the Diffusion of Innovations" *American Journal of Political Science* 53(1): 175–189.

Tansey, Oísin. 2007. "Process Tracing and Elite Interviewing: A Case for Non-probability Sampling" PS: Political Science & Politics 40(4): 765-772.

Tews, Anne. 2015. "Municipal Reactions to European Energy and Climate Governance: The Case of German Cities" Paper prepared for the Climate Change and Renewable Energy Policy in the EU and Canada Workshop, Carleton University. Ottawa, ON: October 1-2, 2015.

Tiberghien, Yves. 2002. "Induction, Process-Tracing, and the Power of Interviews: Lessons from Comparative Research on Structural Reforms in Japan, France, and South Korea." Paper prepared for The Oral History Conference Organized by the National Graduate Institute for Policy Studies, Tokyo.

Tiebout, Charles M. 1956. "A Pure Theory of Local Expenditures" *Journal of Political Economy* 64(5): 416-24.

Tindal, C. Richard and Susan N. Tindal. 2004. *Local Government in Canada.* 6th ed. Scarborough, ON: Nelson, Thomson.

Tsebelis, George. 1995. "Decision-making in Political Systems: Veto Players in Presidentialism, Parliamentarism, Multicameralism, and Multipartyism" *British Journal of Political Science* 25(3): 289-325.

Tvinnereim, Endre and Nives Dolšak. 2013. "Urban Climate Change Policies in the Transportation Sector: Approaches and Outcomes" Paper presented at the annual meeting of the American Political Science Association. Chicago, IL.

Van Evera, Stephen. 1997. *Guide to Methods for Students of Political Science*. Ithaca, NY: Cornell University Press.

Vogel, David. 1993. "Representing Diffuse Interests in Environmental Policymaking" in *Do Institutions Matter? Government Capabilities in the United States and Abroad*, R. Kent Weaver and Bert Rockman, eds. Washington, DC: The Brookings Institution, 237-271.

Vogel, Ronald K. and Bert E. Swanson. 1989. "The Growth Machine Against the Antigrowth Coalition: The Battle for Our Communities" *Urban Affairs Quarterly* 25(1): 63-85.

Walker, Jack L. 1969. "The Diffusion of Innovations Among the American States" *American Political Science Review* 63(3): 880-899.

Walks, Alan. 2014. "Stopping the 'War on the Car': Neoliberalism, Fordism, and the Politics of Automobility in Toronto" *Mobilities* Advance Access published 14 March 2014. doi: 10.1080/17450101.2014.880563

Wang, Juan. 2014. "Bike Lanes? Vancouver and Toronto Have Different Stories to Tell" Paper prepared for POLI 533: Public Policy. University of British Columbia (Vancouver).

Wang, Rui. 2013. "Adopting Local Climate Policies What Have California Cities Done and Why?" *Urban Affairs Review* 49(4): 593-613.

Wang, XiaoHu et al. 2012. "Capacity to Sustain Sustainability: A Study of U.S. Cities *Public Administration Review* 72(6): 841-853.

Watson, D. J. and W. L. Hassett. 2004. "Career Paths of City Managers in America's Largest Council-Manager Cities" *Public Administration Review*, 64(2): 192-199.

Weaver, R. Kent. 1986. "The Politics of Blame Avoidance" *Journal of Public Policy* 6: 371-398.

Weeks, Brian and Brian Southwell. 2010. "The Symbiosis of News Coverage and Aggregate Online Search Behavior: Obama, Rumors, and Presidential Politics" *Mass Communication and Society* 13(4): 341-360.

Weingast, Barry R. 1984. "The Congressional-Bureaucratic System: A Principal Agent Perspective (with Applications to the SEC)" *Public Choice* 44(1): 147-191.

Wiener, Jonathan B. 2007. "Think Globally, Act Globally: The Limits of Local Climate Policies" *University of Pennsylvania Law Review* 155: 101-119.

Wilson, James Q. 1980. "The Politics of Regulation" in James Q. Wilson, ed., *The Politics of Regulation.* New York: Basic Books, Inc.

Wlezien, Christopher. 2005. "On the Salience of Political Issues: The Problem with "Most Important Problem" *Electoral Studies* 24(4): 555-579.

Wolman, Harold and Michael Goldsmith. 1992. *Urban Politics and Policy: A Comparative Approach*. Cambridge, MA: Blackwell.

Young, Robert. 2012. "Introduction: Multilevel Governance and Its Cetral ResearchWuestions in Canadian Cities" in Martin Horak and Robert Young, eds. *Sites of Governance: Multilevel Governance and Policy Making in Canada's Big Cities*. Montreal and Kingston: McGill-Queen's University Press.

Zahran, Sammy et al. 2008. "Vulnerability and Capacity: Explaining Local Commitment to Climate Change Policy" *Environment and Planning C: Government & Policy* 26.

Zaks, Sherry. 2011. "Relationships Among Rivals: Analyzing Contending Hypotheses with a New Logic of Process Tracing" Paper Presented at the Annual Meeting of the American Political Science Association. Seattle, WA.

Ziblatt, Daniel. 2008. "Why Some Cities Provide More Public Goods Than Others: A Subnational Comparison Of The Provision of Public Goods in German Cities in 1912" *Studies in Comparative International Development* 43(3-4), 273-289.

Zuckerman, Harriet. 1972. "Interviewing an Ultra-Elite" *Public Opinion Quarterly* 36:159-175.

Government Documents

City of Brampton

Bishun, Daniel. n.d. "Brampton, Ontario, Canada: Economic Overview" City of Brampton,
        Economic Development Office.

Brampton. n.d.a. "Brampton Clean City Committee" Webpage. Accessed 30 March 2014.
        Available online at http://www.brampton.ca/EN/City-Hall/Council-
        Committees/Pages/Brampton-Clean-City-Committee.aspx

Brampton. n.d.b. "Brampton Environmental Planning Advisory Committee" Webpage. Accessed
        30 March 2014. Available online at http://www.brampton.ca/EN/City-Hall/Council-
        Committees/Pages/Brampton-Environmental-Planning-Advisory-Committee.aspx

Brampton. n.d.c. "City Councillor John Hutton" Webpage. Accessed 30 March 2014. Available
        online at http://www.brampton.ca/EN/City-Hall/CouncilOffice/John-
        Hutton/Pages/Welcome.aspx

Brampton. n.d.d. "Committee of Council" Webpage. Accessed 30 March 2014. Available online
        at http://www.brampton.ca/EN/City-Hall/Council-Committees/Pages/Committee-of-
        Council.aspx

Brampton. 2014a. "Implementation Action Plan" *Brampton Grow Green.* Environmental Master
        Plan. Brampton: City of Brampton. Accessed 11 October 2015. Available online at
        http://www.brampton.ca/EN/Business/planning-development/projects-
        studies/Documents/Environmental%20Master%20Plan/Final%20Documents/Brampton%
        20IAP_11_10_2014.pdf

Brampton. 2014b. Brampton Election Results 2014. Accessed 23 September 2015. Available
        online at http://www.brampton.ca/EN/City-Hall/election/Pages/2014-Election-
        Results.aspx

Brampton. 2013a. "Brampton pushes ahead for full regional representation" Media Release.
        Available online at https://www.brampton.ca/EN/City-
        Hall/News/Documents/Media%20Releases/2013/Brampton%20Pushes%20Ahead%20for
        %20Full%20Regional%20Representation.pdf

Brampton. 2013b. "2013 Current and Capital Budget (Works and Transportation)" Accessed 11
        October 2015. Available online at http://www.brampton.ca/EN/City-
        Hall/budget/2013%20Budget/Works%20and%20Transportation.pdf

Brampton. Brampton Environmental Planning Advisory Committee (BEPAC). 2013. Minutes 26
        November 2013

Brampton. City Council. 2013. Minutes. February 2013

Brampton. City Council. 2010. Minutes. 28 April 2010.

Brampton. City Council. 2008a. Minutes. 9 April 2008.

Brampton. City Council. 2008b. Minutes. December 2008.

Brampton. City Council. 2005. Minutes. 4 May 2005.

Brampton. Committee of Council. 2014a. Minutes. 28 May 2014.

Brampton. Committee of Council. 2014b. Minutes. 5 March 2014.

Brampton. Committee of Council. 2013. Minutes. 15 May 2013.

Brampton. Committee of Council. 2010. Minutes. 21 April 2010.

Brampton. Committee of Council. 2006. Minutes. 21 June 2006. Motion CW271-2006.

Brampton. Office of the Central Area. 2014. "Central Area Community Improvement Plan:
        Development Charges Incentive Program Implementation Guidelines" Accessed October
        11, 2015. Available online at http://www.brampton.ca/EN/Business/planning-
        development/central-
        area/Documents/CIP%20DCI%20Program%20Implementation%20Guidelines%2014072
        4.pdf

Brampton. Planning, Design and Development Committee (PDD). 2008. Minutes. 3 September
        2008.

Chiaravallotti, Chris. 2010. "Green Fleet Program" Report to Committee of Council. 09 April
        2010.

Parks, Mike. 2006. "Follow-up to Birchbank Road Bicycle Lanes – Ward 8" Report to
        Committee of Council. 7 June 2006.

Planning Partnership. 2013. Sustainable Community Development Guidelines. Part 8 of the
        Development Design Guidelines. Prepared for the City of Brampton.

City of Toronto

Banting, Doug et al. 2005. Report on the Environmental Benefits and Costs of Green Roof
        Technology for the City of Toronto. City of Toronto and Ontario Centres of Excellence –
        Earth and Environmental Technologies (OCE-ETech).

Bellamy, Denise E. 2005a. "Executive Summary" *Toronto Computer Leasing Inquiry/Toronto
        External Contracts Inquiry Report,* Volume 4. Toronto: City of Toronto. Accessed 27

January 2016. Available online at
http://www1.toronto.ca/inquiry/inquiry_site/report/pdf/TCLI_TECI_Report_Executive_S
ummary.pdf

Bellamy, Denise E. 2005b. "Good Government" *Toronto Computer Leasing Inquiry/Toronto
External Contracts Inquiry Report,* Volume 2. Toronto: City of Toronto. Accessed 27
January 2016. Available online at
http://www1.toronto.ca/inquiry/inquiry_site/report/pdf/TCLI_TECI_Report_Good_Gover
nment.pdf

Breault, Philip et al. 2012. "The City of Toronto: Fleet Services Operational Efficiency Plan
(OEP)" Fleet Challenge Ontario.

Halsall Associates and GHK International (Canada). 2006. City of Toronto Green Development
Standard Phase I. Prepared for City Planning Division, City of Toronto.

Kesik, Ted and Anne Miller. 2008. Toronto Green Development Standard: Cost-Benefit Study.
Toronto: City of Toronto, Policy and Research, City Planning.

KPMG. 2011. "City of Toronto Core Services Review: Standing Committee Summary, Parks
and Environment" Accessed 26 January 2016. Available online at
http://www.toronto.ca/legdocs/mmis/2011/pe/bgrd/backgroundfile-39537.pdf

Lucas, W. J. 1998. "A report on cycling fatalities in Toronto 1986-1998" Toronto: Regional
Coroner for Toronto. Accessed 11 October, 2015. Available online at
http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=1a95970aa08c1410VgnVCM
10000071d60f89RCRD

Toronto. 2015. "Administrative Structure" Accessed October 11, 2015. Available online at:
http://www1.toronto.ca/divisions/pdf/org_chart.pdf

Toronto. 2013a. *Former Deputy Mayor and City Councillor Joe Pantalone.* Webpage. Accessed
August 23, 2013. Available online at
http://www.toronto.ca/toronto_history/councillors/2006-2010/pantalone1.htm

Toronto. 2013b. *Toronto Green Standard.* Webpage. Accessed August 24, 2013. Available
online at www.toronto.ca/planning/environment

Toronto. 2012. *Green Roofs.* Webpage. Accessed August 24, 2013. Available online at
http://www.toronto.ca/greenroofs/

Toronto. 2008. *Toronto Green Standard Update: Performance Measures for Sustainable
Development.* Staff Report to the Planning and Growth Management Committee from the
Chief Planner and Executive Director, City Planning Division. October 30, 2008

Toronto. 2006a. *The Toronto Green Development Standard.* Staff Report to the Policy and Finance Committee from the Chief Planner and Executive Director, City Planning Division. June 5, 2006.

Toronto. 2006b. *Making a Sustainable City Happen: The Toronto Green Development Standard 2006.* Staff Report to the Policy and Finance Committee from the Chief Planner and Executive Director, City Planning Division. July 13, 2006.

Toronto. 2004. City of Toronto's Fleet Services plans a green future" Media Release. April 29, 2004. Accessed October 11, 2015. Available online at http://wx.toronto.ca/inter/it/newsrel.nsf/82f55f14f8d6b46285256ef500408475/70777538 00C0760A85256E8500622716?opendocument

Toronto. 2001. *Toronto Bike Plan.* Toronto: City of Toronto.

Toronto. 2000. "Backgrounder – Forest Stewardship Recognition Program" Media Release. May 9, 2000. Accessed October 11, 2015. Available online at http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=af71df79b2df6410VgnVCM1 0000071d60f89RCRD&nrkey=667D2F77F278D8BF85256DF600463205

Toronto. 2000. "Clean, Green and Healthy – A Plan for an Environmentally Sustainable Toronto" *Environmental Plan.* Toronto: City of Toronto.

Toronto. Administration Committee. 2005. *Minutes of Proceedings.* Meeting No. 8, November 7, 2005.

Toronto. City Council. 2012. Minutes. 2 October 2012. Minute PW17.9

Toronto. City Council. 2008. Minutes. March 3-5 2008.

Toronto. City Council. 2006. "Making Green Roofs Happen" Minutes. 31 January-2 February 2006.

Toronto. Environment and Energy Division (EED). 2013. *Five Year Business Plan (2014-18)*

Toronto. Fleet Services Division. (FSD). 2008. *Toronto Green Fleet Plan 2008-2011*. Toronto: City of Toronto. Accessed October 11, 2015. Available online at http://www.toronto.ca/legdocs/mmis/2008/gm/bgrd/backgroundfile-10521.pdf

Toronto. Fleet Services Division. (FSD). 2004. *Green Fleet Transition Plan, 2004-2007.* Toronto: City of Toronto. Accessed October 11, 2015. Available online at https://www1.toronto.ca/city_of_toronto/fleet_services/files/pdf/gftp_apr04.pdf

Toronto. Fleet Services Division (FSD). 2001. *Fleet Services Future Plan.* Toronto: City of Toronto.

Toronto. Policy and Finance Committee. 2006. *The Toronto Green Development Standard.* Staff
Report from the Chief Planner and Executive Director, City Planning Division. June 5.

Toronto. Public Health. 2014. "Healthy Streets: Design Features and Benefits" Toronto: City of
Toronto.

Toronto. Public Health. 2013. "Transportation Priorities and Investment for a Healthy Toronto"
Staff Report. 11 March 2013. Toronto: City of Toronto.

Toronto. Public Health. 2012. "Road to Health: Improving Cycling and Walking in Toronto" A
Health Toronto By Design Report. Toronto: City of Toronto.

Toronto. Roundtable on the Environment and Roundtable on a Beautiful City (RERBC). 2006.
Minutes of Proceedings. Meeting No. 1. July 10, 2006.

Toronto. Roundtable on a Beautiful City (RBC). 2004. *Minutes of Proceedings.* Meeting No. 1,
November 29, 2004.

Toronto. Solid Waste Management Services (SWMS). 2005. "Multi-Year Business Plan, 2005:
A Made in Toronto Solution" Toronto: City of Toronto.

Toronto. Toronto Environment Office (TEO). 2007. "Climate Change, Clean Air and Sustainable
Energy Action Plan: Moving from Framework to Action, Phase 1, Highlights" Accessed
11 October 2015. Available online at
http://www.toronto.ca/legdocs/mmis/2008/ex/bgrd/backgroundfile-13957.pdf

Toronto Atmospheric Fund (TAF). 2013. "Green Condo Loan: Making Energy Efficient
Condominiums the New Normal" Accessed 26 February 2015.
http://www.towerwise.ca/wp-content/uploads/2013/05/Green-Condo-Loan-Fact-
Sheet.pdf

City of Vancouver

Dobrovolny, Jerry. 2009. "Burrard Bridge Bike Lanes Status Report, Fall 2009" Report to the
Standing Committee on Transportation and Traffic. City of Vancouver. 27 October 2009.

Dobrovolny, Jerry. 2010. "Cycling in Vancouver: Looking Forward to 2010/2011"
Administrative Report to the Standing Committee on Transportation and Traffic, City of
Vancouver. 30 April 2010. Accessed 1 December 2011. Available online at
http://vancouver.ca/ctyclerk/cclerk/20100506/documents/csbu5.pdf

Henderson, Paul et al. 2008. "Vancouver Landfill: Landfill Gas Collection and Utilization
Project" City of Vancouver. Accessed 28 November 2011. Available online at
http://vancouver.ca/engsvcs/solidwaste/landfill/CollUtilProject.htm

Pander, Sean. 2005. "Vancouver's Community Climate Change Action Plan" Report to Vancouver City Council. 15 March 2005. Accessed 26 November 2011. Available online at http://vancouver.ca/sustainability/documents/CCCAPcouncilrr1b-complete.pdf

Mikkelsen, Dale and Ian Smith. 2004. "Developing a Green Building Strategy for the City of Vancouver" Policy Report: Urban Structure. Report to the Standing Committee on Planning and Environment. 3 May 2004. Accessed 12 October 2015. Available online at http://former.vancouver.ca/ctyclerk/cclerk/20040708/pe5.pdf

Mustel Group. 2009. "City of Vancouver Burrard Bridge Lane Reallocation Residents Surveys – Mid-Trial Report" Included as part of Jerry Dobrovolny, "Burrard Bridge Bike Lanes Status Report, Fall 2009," Report to the Standing Committee on Transportation and Traffic. City of Vancouver.

Vancouver 2015. Southeast False Creek Neighbourhood Energy Utility" Webpage. Accessed October 11, 2015. Available online at http://vancouver.ca/home-property-development/false-creek-neighbourhood-energy-utility.aspx

Vancouver. 2012. "Cycling in Vancouver" Fact Sheet: Spring 2012.

Vancouver. 2011a. *Greenest City Action Plan* July 2011. Accessed 1 December 2011.Available online at http://vancouver.ca/ctyclerk/cclerk/20110712/documents/rr1.pdf

Vancouver. 2011b. "Mayor Gregor Robertson" Accessed 16 October 2011. Available online at http://vancouver.ca/ctyclerk/mayorcouncil/mayorrobertson.htm

Vancouver. 2011c. "Deconstruction" Planning-Bylaw Administration Bulletin. 4 October 2011. Accessed 1 December 2011. Available online at http://vancouver.ca/commsvcs/bylaws/BULLETIN/D007.pdf

Vancouver. 2011d. "Greenest City 2020 Home Energy Loan Program" Accessed 1 December 2011. Available online at http://vancouver.ca/greenestcity/energyloan/

Vancouver. 2010. Green Building Rezoning Policy. Accessed 1 December 2011. Available online at http://vancouver.ca/commsvcs/guidelines/G014.pdf

Vancouver. 2009a. "Separated Bike Lanes" Accessed 1 December 2011. Available online at http://vancouver.ca/engsvcs/transport/cycling/separated/index.htm

Vancouver. 2009b. "City funds sustainable commutes through pay parking for staff" Media Release. 3 June 2009. Accessed 1 December 2011. Available online at http://vancouver.ca/mediaroom/news/detail.htm?row=73&date=2009-06-03

Vancouver. 2009c. "Food Policy in Vancouver: A Short History" Accessed 1 December 2011. Available online at http://former.vancouver.ca/commsvcs/socialplanning/initiatives/foodpolicy/policy/history.htm

Vancouver. 2009d. "EcoCity Initiatives/EcoDensity" Accessed 1 December 2011. Available online at http://vancouver.ca/commsvcs/ecocity/index.htm

Vancouver. 2009e. "Vancouver Green Capital" Accessed 1 December 2011. Available online at http://vancouver.ca/greencapital/index.htm

Vancouver. 2009f. "Vancouver House: Vancouver Green Capital" Accessed 1 December 2011. Available online at http://vancouver.ca/greencapital/vancouverhouse.htm

Vancouver. 2008a. "City Facilities" Accessed 1 December 2011. Available online at http://vancouver.ca/sustainability/sustain_facilities.htm

Vancouver. 2008b. Campaign Financing Disclosure Statements. Accessed 22 December 2014. Available online at http://vancouver.ca/ctyclerk/election2008/candidate-profiles.htm

Vancouver. 2005. Campaign Financing Disclosure Statements. Accessed 22 December 2014. Available online at http://vancouver.ca/ctyclerk/election2005/profiles.htm

Vancouver. 2004. "Southeast False Creek Green Building Strategy" City of Vancouver Land Use and Development Policies and Guidelines. July 8, 2004. Accessed October 11, 2015. Available online at http://vancouver.ca/docs/sefc/green-building-strategy.pdf

Vancouver. 1990. *Clouds of Change*, v.1 and v.2. Accessed 1 December 2011. Available online at http://vancouver.ca/sustainability/documents/CloudsofChangeVol1.pdf and http://vancouver.ca/sustainability/documents/CloudsofChangeVol2.pdf

Vancouver. City Council. 2005. Minutes. 3 February 2005.

Vancouver. City Council. 2004. Minutes. 8 July 2004.

Vancouver. City Council. 2002. Minutes. 23 April 2002.

City of Winnipeg

Braun, Tracy. 2010. "Re: File: 5402.00 – Clause 21 of Environment Act Licence 2890 – Notice of Alteration". Official Correspondence with Darryl Drohomerski, Manager of Solid Waste Services, City of Winnipeg – Solid Waste Services Division. Dated September 8, 2010.

D'Arcy and Deacon, LLP. 2013. "Gordon C. Steeves" Webpage. Accessed August 24, 2013. Available online at http://www.darcydeacon.com/bios.asp?id=66

Regan, Patti. 2010. Green Building Policy: New City-owned Buildings and Major Additions. Administrative Report to the Standing Committee on Property and Development. June 28, 2010.

Regan, Patti and Ian Hall. 2011. "Green Building Policy: Existing City-owned Buildings" Administrative Report to the Standing Committee on Property and Development. City of Winnipeg. September 29.

Swandel, Justin. 2013. "Justin Swandel: City Councillor St. Norbert Ward" Website. Accessed August 24, 2013. Available online at swandel.ca

Winnipeg. 2014. "City Government: History of City Government" Webpage. September 23, 2014. Accessed 9 October 2015. Available online at http://www.winnipeg.ca/Services/CityLife/HistoryOfWinnipeg/CityGovernment.stm

Winnipeg. 2013a. "Brady Road Resource Management Facility (Brady Road Landfill)" Webpage. April 12, 2013. Accessed April 22, 2013. Available online at www.winnipeg.ca/waterandwaste/garbage/bradyroad.stm

Winnipeg. 2013b. "Mayor Announces Executive Policy Committee" Media Release. 4 November 2013. Accessed 9 October 2015. Available online at http://www.winnipeg.ca/cao/media/news/nr_2013/nr_20131104.stm

Winnipeg. 2012. Request for Proposal: Request for proposal for a design-build-operate of a landfill gas project at the Brady Road Resource Management Facility. RFP no. 299-2012.

Winnipeg. 2011a. The City of Winnipeg Annual Financial Report. Available online at http://www.winnipeg.ca/finance/files/CityOfWpgAR2011_Web.pdf

Winnipeg. 2011b. "Green Building Policy changes to assist in improving energy efficiency, reduced environmental impact" Media Release. November 25, 2011.

Winnipeg. 2011c. "Green Building Policy changes to assist in improving energy efficiency, reduced environmental impact" Media Release. November 25, 2011. Accessed July 22, 2013. Available online at www.winnipeg.ca/cao/media/news/nr_2011/nr_20111125.stm#2

Winnipeg. 2010. Green Fleet Plan. 23 April 2010. Presented to City Council 21 July 2010.

Winnipeg. 2009. Request for Proposal: Request for proposal for a landfill gas and resource recovery project at the Brady Road Landfill. RFP no. 704-2009.

Winnipeg. 2008. "Item No. 14 Brady Road Landfill Gas Capture Program File WT-1" Report to the Standing Policy Committee on Infrastructure Renewal and Public Works Committee – March 4, 2008. Available online at http://www.winnipeg.ca/CLKDMIS/ViewDoc.asp?DocId=8074&SectionId=&InitUrl=

Winnipeg. 2002. "Joint study to examine innovative ways to reduce greenhouse gas emissions at City landfill sites" News Release. Accessed April 21, 2014. Available online at www.winnipeg.ca/cao/media/news/nr_2002/nr_20021018a.stm

Winnipeg. City Council. 2011a. Hansard. 16 November 2011. Page 17.

Winnipeg. City Council. 2011b. Hansard. 14 December 2011. Page 41.

Winnipeg. City Council. 2010a. Minutes of Proceedings. 21 July 2010. Minute 520, Item 2.

Winnipeg. City Council. 2010b. Hansard. 21 July 2010. Page 62.

Winnipeg. City Council. 2009. Hansard. 30 September 2009.

Winnipeg. Executive Policy Committee (EPC). 2012. Minutes. September 19, 2012. Minute 381.

Winnipeg. EPC. 2011a. Minutes of Proceedings. November 9, 2011. Minute 9, Item 1.

Winnipeg. EPC. 2011b. Minutes of Proceedings. December 7, 2011. Minute 81, Item 10.

Winnipeg. EPC. 2010. Minutes of Proceedings. July 14, 2010. Minute 417.

Winnipeg. EPC. 2008. Minutes of Proceedings. April 30, 2008. Minute No. 291.

Winnipeg. Mayor's Environmental Advisory Committee (MEAC). 2009. Agenda. June 22, 2009.

Winnipeg. Standing Policy Committee on Property and Development (SPCPD). 2011a. Minutes of Proceedings. November 1, 2011. Minute 256.

Winnipeg. SPCPD. 2011b. Agenda. November 29, 2011. Item 14.

Winnipeg. SPCPD. 2010a. Minutes of Proceedings. February 2, 2010. Minute 59.

Winnipeg. SPCPD. 2010b. Minutes of Proceedings. July 6, 2010. Minute 168.

Other Governments

British Columbia. n.d. "Cycling Infrastructure Funding" Accessed October 11, 2015. Available online at http://www2.gov.bc.ca/gov/content/transportation/funding-programs-and-engagement/funding-grants/cycling-infrastructure-funding

British Columbia. 2013. "Summary of GHG Emissions 1990-2013" *British Columbia Greenhouse Gas Inventory.* Accessed January 15, 2016. Available online at www2.gov.bc.ca/gov/content/environment/climate-change/reports-data/provincial-ghg-inventory-report-bc-s-pir

British Columbia. 2010. "Report of the Local Government Elections Task Force" Local Government Elections Task Force. Accessed January 31, 2016. Available online at http://www.localelectionstaskforce.gov.bc.ca/library/Task_Force_Report.pdf

British Columbia. 2008a. "Municipalities Receive Climate Action Incentive" Office of the
Premier. Media Release. Accessed 29 November 2011. Available online at
http://www2.news.gov.bc.ca/news_releases_2005-2009/2008OTP0235-001451.htm

British Columbia. 2008b. "Climate Action Revenue Incentive Program (CARIP)" Ministry of
Community, Sport and Cultural Development, Department of Local Government.
Accessed 28 November 2011. Available online at
http://www.cscd.gov.bc.ca/lgd/greencommunities/carip.htm

British Columbia. 2008c. "Frequently Asked Questions: Local Government (Green
Communities) Statutes Amendment Act, (Bill 27) 2008" Ministry of Community, Sport
and Cultural Development, Department of Local Government, Intergovernmental
Relations and Planning Division. Accessed 29 November 2011. Available online at
http://www.cscd.gov.bc.ca/lgd/intergov_relations/library/Bill27_Green_Communities_F
AQs.pdf

British Columbia. 2008d. *Landfill Gas Management Regulation* Accessed October 11, 2015.
Available online at http://www.env.gov.bc.ca/epd/codes/landfill_gas/

British Columbia. 2007. Official Report of Debates of the Legislative Assembly (Hansard) Third
Session, 38th Parliament. Monday, March 26, 2007. Afternoon Sitting. Volume 17,
Number 2.

British Columbia. 2005. *BC Climate Action Charter, 2005.* Accessed 29 November 2011.
Available online at
https://ubcm.civicweb.net/Documents/DocumentList.aspx?ID=1683#http://www.cd.gov.
bc.ca/ministry/whatsnew/climate_action_charter_update.htm

C. Rankin and Associates. 2008. "Landfill Gas Regulation Intentions Paper: Summary of Public
Comment" Prepared for the BC Ministry of Environment. November 2008.

Conestoga-Rovers and Associates. 2009. "Landfill Gas Generation Assessment Procedure
Guidelines" For compliance with the British Columbia Landfill Gas Management
Regulation. March 2009.

Coulter, Ryan. 2009. "Summary of Comments/Recommendations: Winnipeg" Province of
Manitoba.

Delta. 2014. "Vancouver Landfill Methane Emissions" Council Report, F.03. 16 April 2014.

Environment Canada. 2014. "National Inventory Report: Greenhouse Gas Sources and Sinks in
Canada (1990-2012), Part 1" The Canadian Government's Submission to the UN
Framework Convention on Climate Change. Accessed January 15, 2016. Available
online at www.publications.gc.ca/collections/collection_2014/ec/En81-4-2012-1-eng.pdf

Manitoba. 2014. "Manitoba's Climate Change and Green Economy Action Plan: December
2014" Accessed January 15, 2016. Available online at

www.gov.mb.ca/conservation/climate/pdf/mb-climate-change-green-economy0action-plan.pdf

Metro Vancouver. n.d. "Timeline" Accessed January 20, 2016. Available online at http://www.metrovancouver.org/Includes/Timeline/timeline.html#page_2007

Metro Vancouver. 2016. "Board Members" Accessed January 14, 2016. Available online at http://www.metrovancouver.org/boards/membership/board-members/Pages/default.aspx

Metro Vancouver. 2015a. "Vancouver Landfill Gas Capture Optimization Project: Allocation of GHG Reduction Credits to Metro Vancouver and Its Member Municipalities (2014 Reporting Year)" Air Quality and Climate Change Division.

Metro Vancouver. 2015b. "Member Municipalities" Accessed 20 January 2015. Available online at http://www.metrovancouver.org/about/municipalities/Pages/default.aspx

Metro Vancouver. 2014. "Vancouver Landfill Gas Capture Optimization Project: Allocation of GHG Reduction Credits to Metro Vancouver and Its Member Municipalities (2013 Reporting Year)" Air Quality and Climate Change Division.

Ontario. 2014a. "Ontario's Climate Change Update 2014" Ministry of the Environment and Climate Change. Accessed January 15, 2016. Available online at www.ontario.ca/document/ontarios-climate-change-update-2014

Ontario. 2014b. "Ontario Traffic Manual, Book 18: Cycling Facilities" Ministry of Transportation. December 2013. Accessed October 11, 2013. Available online at http://www.raqsa.mto.gov.on.ca/techpubs/eps.nsf/8cec129ccb70929b852572950068f16b/825810eb3ddd203385257d4a0063d934/$FILE/Ontario%20Traffic%20Manual%20-%20Book%2018.pdf

Ontario. 2011. O. Reg. 397/11: Energy Conservation and Demand Management Plans, under *Green Energy Act, 2009*, S.O. 2009, c. 12, Sched. A. Accessed 8 October 2015. Available online at http://www.ontario.ca/laws/regulation/110397

Ontario. 2008. Landfill Gas Collection and Control Regulation (O.Reg 216/08 and O.Reg 217/08). Environmental Registry 010-3086. Accessed October 11, 2015. Available online at http://www.ebr.gov.on.ca/ERS-WEB-External/displaynoticecontent.do?noticeId=MTAzMDY2&statusId=MTU1MTMw

Ontario. 2006. *City of Toronto Act, 2006.* Accessed 8 October 2015. Available online at http://www.ontario.ca/laws/statute/06c11

Ontario. 2005a. *Regional Municipality of Peel Act, 2005.* Accessed 8 October 2015. Available online at http://www.ontario.ca/laws/statute/05r20

Ontario. 2005b. *Toronto Atmospheric Fund Act, 2005.* Accessed 8 October 2015. Available online at http://www.ontario.ca/laws/statute/pr05006

Ontario. 1990a. *Conservation Authorities Act*. Accessed 8 October 2015. Available online at http://www.ontario.ca/laws/statute/90c27

Ontario. 1990b. *Highway Traffic Act*, R.S.O. 1990, c. H.8. Accessed 8 October 2015. Available online at http://www.ontario.ca/laws/statute/90h08?search=%22traffic+act%22

Region of Peel. n.d.a. Peel Data Centre. "Population 1971-2011" Accessed 30 March 2014. Available online at https://www.peelregion.ca/planning/pdc/data/census/population-1971-2006.htm

Region of Peel. n.d.b. Client Satisfaction and Confidence in Government Research. Available online at https://www.peelregion.ca/reports/

Statistics Canada. 2013. *The Daily: Canadian Internet Use Survey, 2012.* Accessed 13 January 2016. Available online at http://www.statcan.gc.ca/daily-quotidien/131126/dq131126d-eng.htm

Statistics Canada. 2011a. "Census Profile: Brampton, Ontario" Accessed 30 March 2014.

Statistics Canada. 2011b. "Census Profile: Caledon, Ontario"

Statistics Canada. 2011c. "Census Profile: Winnipeg, Manitoba"

United States Environmental Protection Agency (US EPA). 2012. "Basic Information" *Green Buildings.* Webpage. Accessed 16 August 2013. Available at www.epa.gov/greenbuilding/pubs/about.htm

Media Reports

Adler, Ben. 2014. "How did Vancouver get so green?" *Grist.org* 31Mar 2014 Accessed 9
October 2015. Available online at http://grist.org/cities/how-did-vancouver-get-so-green/

Armstrong, Jane. 1988. "Noxious gas at dump to be fuel for power" *Toronto Star* 10 May: E1.

Barber, John. 1997. "Greenhouse gas glory goes to one Metro firm" *Globe and Mail* 9
December: A8.

Barber, John. 1995. "Toronto trash talk about the atmosphere" *Globe and Mail* 10 May: A2

CBC News. 2005. "Dump tested for methane fuel potential" 5 April 2005. Accessed 22 March
2013. Available online at
www.cbc.ca/news/canada/manitoba/story/2005/04/05/mb_brady-methane-20050405.html

CBC News. 2002. "City to use garbage to heat homes?" 18 October 2002. Accessed 22 March
2013. Available online at
www.cbc.ca/news/canada/manitoba/story/2005/04/05/mb_brady-methane-20050405.html

CTV News. 2010. "Ford says ending the 'war on cars' a top priority" 1 December 2010.
Accessed October 11, 2015. Available online at http://toronto.ctvnews.ca/ford-says-
ending-the-war-on-cars-a-top-priority-1.580604

Diakiw, Kevin. 2011. "Vancouver landfill coughing up greenhouse gases: Delta" *Surrey Leader*
23 February 2011. Accessed October 9, 2015. Available online at
http://www.surreyleader.com/news/116766714.html

Donville, Christopher. 1987. "Landfill gas is studied at Pickering" *Globe and Mail* 22 May: C12.

Douglas, Pam. 2012. "MoneySense: Brampton vs. Mississauga" *The Brampton Guardian* 22
March 2012: 01.

Douglas, Pam. 2010. "Mayor sets priorities" *The Brampton Guardian* 07 December 2010: 01.

Douglas, Pam. 2006a. "City begins to grow its "green fleet"; smart cars, Honda Civic hybrids
join bylaw department fleet" *The Brampton Guardian* 09 April 2006: 01.

Douglas, Pam. 2006b. "Mayoralty candidates debate issues; Taxes, development hot topics at
debate" *The Brampton Guardian* 27 October 2006: 01.

Douglas, Pam. 2005. "Mayor leads storm of Legislature; Brampton not happy with legislation"
The Brampton Guardian 04 May 2005: 01.

Douglas, Pam. 2004. "Brampton ready to defend regional government; City likes the region the
way it is" *The Brampton Guardian* 17 September 2004: 03.

Douglas, Pam. 2003a. "Mayor, challenger face off in debate" *The Brampton Guardian* 24 October 2003: 01.

Douglas, Pam. 2003b. "Callahan wins only race of incumbents" *The Brampton Guardian* 12 November 2003: 01.

Dupuis, Stephen. 2009. "'Free' TTC Metropass will make condos more costly" *Toronto Star.* December 12: H11.

Foster, Bob. 2005. "Compact cars are the answer" Letter to the Editor. *The Brampton Guardian* 14 August 2005: 01.

Funston, Mike. 2002. "Call it tofu for your truck's engine: Brampton tries out soybean fuel additive" *The Toronto Star* 21 May 2002: B05.

Girard, Daniel. 1990. "Garbage power plant nearly finished" *Toronto Star* 30 May: A29.

Globe and Mail. 1978. *"*No methane testing near explosion site, councillor charges" 03 May: P9.

Globe and Mail. 1979. "Gas from dump a costly hazard" 13 August: B11.

Globe and Mail. 1985. "North Pickering residents fed up with presence of garbage dump" 26 October: A17.

Hanes, Allison. 2009. "Green Roof Bylaw Moves One Step Closer to Reality: 'It's just taking that quick cash grab from us'. *National Post.* 7 May: A15.

Hanes, Tracy. 2010. "Mayoral Candidates Talk Development" *Toronto Star.* 18 September: H26.

Israelson, David. 1987. "It's official: Metro's garbage dump is stinking up Pickering, report says" *Toronto Star* 24 October: A12.

Jefferson, James. 1978. "Dumping urged at Beare site in emergencies" *Globe and Mail* 18 April: P3.

Kalinowski, Tess. 2012. "Heat's on Council as Climate Changes" *The Toronto Star* 12 November: A4.

Kalinowski, Tess. 2009. "Road wars: Can cyclists and motorists get along?" *Toronto Star* 24 May 2009. Accessed October 11, 2015. Available online at http://www.thestar.com/news/gta/2009/05/24/road_wars_can_cyclists_and_motorists_get_along.html

Kives, Bartley. 2015. "City holds out on hiring a new climate change co-ordinator" *Winnipeg Free Press.* September 5, 2015. Accessed October 8, 2015. Available online at http://www.winnipegfreepress.com/local/no-adviser-on-climate-change-324653451.html

Kives, Bartley. 2013a. "Getting your Phil" *Winnipeg Free Press.* October 18, 2013. Accessed October 25, 2013. Available online at http://www.winnipegfreepress.com/local/sheegl-timelinegreatest-hits-bk-228294591.html

Kives, Bartley. 2013b. "Cop HQ costs doomed CAO" *Winnipeg Free Press.* October 24, 2013. Accessed October 25, 2013. Available online at http://www.winnipegfreepress.com/local/cop-hq-costs-doomed-cao-229054141.html

Kives, Bartley. 2011. "The Green Bar is Stunningly High" *Winnipeg Free Press.* Print Edition. June 18, 2011. Accessed August 8, 2013.

Kives, Bartley. 2010a. "City set to spend $31M on last piece of BRT line" *Winnipeg Free Press.* Online Edition. July 10, 2010. Accessed April 22, 2013.

Kives, Bartley. 2010b. "Decision on burning off landfill methane up in the air" *Winnipeg Free Press.* Online Edition. July 10, 2010. Accessed April 22, 2013.

Kives, Bartley. 2009. "Gases gone at stroke of pen" *Winnipeg Free Press.* Online Edition. January 23, 2009. Accessed online April 22, 2013.

Lewis Stein, David. 2002. "Clear roadblocks to clean-air pact" *Toronto Star* 20 September: A25.

Mendleson, Rachel. 2014. "The law said we could think big. So why didn't we?" *Toronto Star* 02 March 2014. Accessed October 12, 2015. Available online at http://www.thestar.com/bigideas/2014/03/02/the_law_said_we_could_think_big_so_why_didnt_we.html

Nelson, Marissa. 2001. "Landfill to provide new energy source" *Globe and Mail* 21 June: A21.

Potter, Warren. 1992. "Landfill gas converted to electricity Power for 6,000 homes drawn from dump site" *Toronto Star* 24 September: SD2.

Robertson, Gregor. 2009. "One Lane Less for Burrard Cars; Safe Crossing for Pedestrians, Bicycles, a Small Price to Pay" *The Province* 13 Jul 2009: A12.

Rollason, Kevin. 2007. "Sky-high rates of municipal-vehicle accidents prompts call for training" *Winnipeg Free Press* 9 November 2007: A7.

Rusk, James. 2006. "The man behind Toronto's dump" *Globe and Mail* 21 September: A12.

Skerritt, Jen. 2012. "New Stab at Methane Capture" *Winnipeg Free Press* 26 March 2012 Accessed August 21, 2013. Available online at www.winnipegfreepress.com/local/new-stab-at-methane-capture-144186385.html

Song, Vivian. 2009. "Mean streets: It's bike vs. car" *Toronto Sun.* 7 May 2009. Accessed 11 October 2015. Available online at http://www.torontosun.com/news/torontoandgta/2009/05/07/9378581-sun.html

Swainson, Gail. 2007. "City's Tough Green Plan Okay with Tridel: But executive says rivals won't like it" *Toronto Star.* Ontario Edition. 5 May: M1.

Taylor, Sterling. 1992. "City's next energy source could be a trashy idea" *Toronto Star* 19 March: SD5.

Toronto Star. 2009. "Miller Leaves Mixed Legacy: It's been six years of political ups and downs for Miller, a man whose ambitious plans have not always gone smoothly" 26 September: A6.

Toronto Star. 2010. "Leaving Behind a Mixed Legacy" 27 November: IN6.

Valpy, Michael.1989. "Imagine a Ma Bell in charge of garbage" *Globe and Mail* 20 January: A8.

Welch, Mary Agnes. 2011. "No more lingering; landfill gases to be harvested" *Winnipeg Free Press.* June 10, 2011.

Welch, Mary Agnes and Lindsey Wiebe. 2009. "Perspective Pale Green: On Matters Environmental, We Fade to the Back of the Pack" *Winnipeg Free Press* Online Edition. 5 April 2009.

Westell, Dan. 1994. "Hydro pledges millions to build renewable power" *Globe and Mail* 16 November: A3.

Winnipeg Sun. 2012. "Landfill has gas, will pay" 9 April 2012.

Woods, Allan. 2009. "Cities Hold Key to Green Dream: World mayors gather at parallel summit to hash out ways to push low-carbon revolution" *Toronto Star.* 16 December: A21.

Publications of Non-governmental Organizations

Brampton Bicycle Advisory Committee (BBAC). 2013a. Minutes. 23 April 2013. Accessed
        October 11, 2015. Available online at http://bikebrampton.ca/wp-
        content/uploads/2013/12/2013-04-23-BBAC-Meeting-Minutes.pdf

BBAC. 2013b. Minutes. 27 May 2013. Accessed October 11, 2015. Available online at
        http://bikebrampton.ca/wp-content/uploads/2013/12/2013-05-27-BBAC-Meeting-
        minutes.pdf

C40 Cities. 2016. "Chair of the C40" Webpage. Accessed 24 January 2014. Available online at
        http://www.c40.org/leadership

C40 Cities. 2015. "C40 FACT SHEET: C40 Cities Climate Leadership Group" Accessed 9
        October 2015. Available online at http://www.c40.org/about

C40 Cities. 2011. "History of the C40" Webpage. Accessed August 24, 2013. Available at
        www.c40cities.org/history

Cahill, Geraldine. n.d. "Series in Public Sector Innovation: Toronto Atmospheric Fund" Social
        Innovation Generation (SiG). Webpage. Accessed February 24, 2015. Available at
        http://www1.toronto.ca/city_of_toronto/toronto_atmospheric_fund/files/pdf/taf_sig_profi
        le.pdf

Canzi, Michael. 2008. "The State of Active Transportation Greater Toronto, Hamilton and
        Beyond" Report Prepared for Metrolinx. Toronto: Clean Air Partnership.

Clean Air Partnership (CAP). 2010. "CAP's relationship to the City of Toronto and to the
        Toronto Atmospheric Fund" Webpage. Accessed October 12, 2015. Available online at
        http://www.cleanairpartnership.org/about_cap_relationships

Craig, Pauline. 2013. "The Other 25%: The Big Move and Active Transportation Investment"
        Toronto: Clean Air Partnership.

EnviroEconomics. 2009. *Act Locally: The Municipal Role in Fighting Climate Change.* Ottawa:
        Federation of Canadian Municipalities.

Federation of Canadian Municipalities (FCM). 2015a. Green Municipal Fund: Eligibility.
        Accessed 8 October 2015. Available online at http://www.fcm.ca/home/programs/green-
        municipal-fund/what-we-fund/eligibility.htm

Federation of Canadian Municipalities (FCM). 2015b. GMF Funded Initiatives Database.
        "Energy auditing and feasibility studies for energy efficiency improvements to 16
        facilities" Accessed 8 October 2015. Available online at
        http://www.fcm.ca/home/programs/green-municipal-fund/funded-initiatives.htm

Federation of Canadian Municipalities (FCM). 2015c. "Partners for Climate Protection" Webpage. Accessed 29 December 2015. Available online at http://www.fcm.ca/home/programs/partners-for-climate-protection.htm

Federation of Canadian Municipalities (FCM). 2014. *The New Building Canada Plan: What it means for cities and communities* Ottawa: FCM. Accessed 6 January 2016. Available online at http://www.fcm.ca/Documents/backgrounders/New_Building_Canada_Fund_Backgrounder_EN.pdf

Federation of Canadian Municipalities (FCM). 2012. *Partners for Climate Protection National Measures Report 2012: Five Year Edition. Demonstrating Results: Municipal Incentives to Reduce Greenhouse Gas Emissions.* Ottawa: FCM. Available online at http://www.fcm.ca/Documents/reports/PCP/2013/PCP_National_Measures_Report_2012_Five_Year_Edition_EN.pdf

Forkes, Jennifer and Nancy Smith Lea. 2010. "Bike Lanes, On-Street Parking and Business - Year 2 Report: A Study of Bloor Street in Toronto's Bloor West Village" Toronto: Clean Air Partnership.

Green Municipal Fund (GMF). 2005. "Winnipeg explores using landfill gas: City of Winnipeg, Manitoba" *Green Municipal Fund Case Study.* Ottawa: Federation of Canadian Municipalities.

Holmes, Miranda. 2012. *All Over the Map 2012: A Comparison of Provincial Climate Change Plans.* Vancouver: David Suzuki Foundation.

ICLEI-Local Governments for Sustainability, Canada (ICLEI). 2015. Website. Accessed 11 October 2015. Available online at http://www.icleicanada.org/

Intergovernmental Panel on Climate Change (IPCC). 2014a. "Summary for Policymakers" in *Climate Change 2014, Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change,* Edenhofer, O. et al., eds. Cambridge, UK: Cambridge University Press.

IPCC. 2014b. "Summary for Policymakers" in *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change,* Field, C.B. et al., eds. Cambridge, UK: Cambridge University Press.

IPCC. 2013. "Summary for Policymakers" in *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, Stocker, T.F. et al., eds. Cambridge, UK: Cambridge University Press.

IPCC. 2007. *Climate Change 2007: Synthesis Report Summary for Policymakers.* R.K. Pachauri, and A. Reisinger, eds. Geneva, Switzerland: IPCC.

Lawlor, Gail et al. 2006. *Green Roofs: A Resource Manual for Municipal Policy Makers.* Canada Mortgage and Housing Corporation.

Ledsham, Trudy et al. 2013. "A Snapshot of Urban Cycling in Toronto" Toronto: Toronto Cycling Think and Do Tank.

Marchington, Erin. 2011. *The 2011 Most Sustainable Cities in Canada.* Toronto: Corporate Knights.

Sztabinski, Fred. "Bike Lanes, On-Street Parking and Business: A Study of Bloor Street in Toronto's Annex Neighbourhood" Toronto: Clean Air Partnership.

Toronto Centre for Active Transportation (TCAT). 2013. "Backgrounder: Why Should We Invest in Active Transportation?" Toronto. May 2013.

Waide, Paul et al. 2009. "Energy Efficiency in North American Existing Building Stock" IEA Information Paper. Energy Efficiency Series. Paris: OECD/IEA. Available at http://www.iea.org/publications/freepublications/ publication/NAM_Building_Stock-1.pdf

Appendix A

Selected Interviews and Personal Correspondence

<u>Brampton</u>
Nelson Cadete (April 2014), Traffic Operations Supervisor, City of Brampton
Sue Connor (May 2013), Executive Director, Brampton Transit, City of Brampton
Bart Danko (April 2014), MES and JD candidate, York University
Pauline Dykes (May 2013), member, Brampton Environmental Planning Advisory Committee, City of Brampton
Michael Hoy (May 2013), Senior Environmental Policy Planner, City of Brampton
John Hutton (May 2013), City Councillor, City of Brampton
Susan Jorgenson (May 2013), Manager, Environmental Planning, City of Brampton
David Laing (April 2014), Chair, Brampton Bicycle Advisory Committee
Brian Lakeman (May 2013), Growth Management Policy Planner, City of Brampton
Norman Lee (May 2013), Director, Waste Management Division, Region of Peel
Alex Milojevic (May 2013), Senior Manager, Business Strategies, Brampton Transit, City of Brampton
Dale Pyne (April 2014), Manager of Facility Services, Buildings and Property Management, City of Brampton
John Sanderson (May 2013), Regional Councillor, City of Brampton
Frances Sims (May 2013), member, Brampton Environmental Planning Advisory Committee, City of Brampton
John Sprovieri (May 2013), Regional Councillor, City of Brampton
David Waters (May 2013), Manager, Land Use Policy, City of Brampton

<u>Toronto</u>
Monica Campbell (March 2012), former Director, Toronto Environmental Protection Office, City of Toronto
Nazzareno Capano (March 2012), Manager, Operations Policy and Planning, City of Toronto
Kate Davies (February 2012), former Director, Toronto Environmental Protection Office, City of Toronto
Glen De Baeremaeker (February 2012), Councillor, City of Toronto
Sarah Gingrich (March 2012), Business Development and Improvement Analyst, Fleet Services, City of Toronto
Franz Hartmann (March 2012), CEO, Toronto Environmental Alliance
Lyle Jones (March 2012), Stakeholder Support Coordinator, Toronto Atmospheric Fund
Gabriella Kalapos (March 2012), Director, Outreach Programs, Clean Air Partnership
Margaret Kelch (March 2012), Conservation Councillor, Toronto Ornithological Club
Mike Layton (March 2012), Councillor, City of Toronto
Mary-Margaret McMahon (March 2012), Councillor, City of Toronto
John Mende (March 2012), Director, Transportation Infrastructure Management, City of Toronto
Peter Milczyn (March 2012), Councillor, City of Toronto
Lawson Oates (March 2012), Director, Toronto Environment Office, City of Toronto
Tony O'Donohue (March 2012), former Councillor, City of Toronto

Gord Perks (March 2012), Councillor, City of Toronto
Gerry Pietschmann (March 2012), Director, Fleet Services, City of Toronto
Jane Welsh (March 2012), Acting Project Manager of Environmental Planning, City of Toronto

Vancouver
Frances Bula (September 2011), Journalist
David Cadman (October 2011), Councillor, City of Vancouver
Kenneth Cameron (September 2011), former city planner, Metro Vancouver
Brian Crowe (October 2011), Assistant City Engineer, Water, Sewers and District Energy, City of Vancouver
Heather Deal (October 2011), Councillor, City of Vancouver
Jerry Dobrovolny (September 2011), Director, Transportation, Engineering Services, City of Vancouver
Paul Henderson (September 2011), Director, Strategic Initiatives, Engineering Services, City of Vancouver
Sadhu Johnston (October 2011), Deputy City Manager, City of Vancouver,
Margaret Mahan (October 2011), Executive Director, BEST
Dale Mikkelsen (October 2011), former project planner, South East False Creek, City of Vancouver
Tamsin Mills (September 2011), Senior Sustainability Specialist, Engineering Services, City of Vancouver
Gordon Price (October 2011), former Councillor, City of Vancouver
David Ramslie (February 2015), former Director, Sustainable Development Program, City of Vancouver
Andrea Reimer (October 2011), Councillor, City of Vancouver
Judy Rogers (October 2011), former City Manager, City of Vancouver
Malcolm Shield (October 2011), Climate Programs Engineer, Sustainability Group, City of Vancouver
Doug Smith (February 2015), Assistant Director, Sustainability Group, City of Vancouver
Sam Sullivan (January 2012), former Mayor, City of Vancouver
Ellen Woodsworth (October 2011), Councillor, City of Vancouver

Winnipeg
Mark Cohoe (February 2013), Executive Director, Bike to the Future
Chuck Davidson (February 2013), Vice President of Policy, Winnipeg Chamber of Commerce
Jenny Gerbasi (February 2013), Councillor, City of Winnipeg
Herb Hajer (February 2013), Chief Operating Officer, Winnipeg Fleet Management Agency, City of Winnipeg
Ian Hall (February 2013), former Environmental Coordinator, City of Winnipeg
Brian Kelcey (February 2013), former advisor to the Mayor, City of Winnipeg
Bartley Kives (January 2015), Journalist, Winnipeg Free Press
Tony Kuluk (February 2013), Engineer, Water and Waste Department, City of Winnipeg
Justin Lee (February 2013), Planner, Water and Waste Department, City of Winnipeg
Sean Madden (February 2013), Community Climate Change Coordinator, City of Winnipeg
Beth McKechnie (February 2013), Workplace Commuter Options, Green Action Centre

Kevin Nixon (February 2013), Active Transportation Coordinator, City of Winnipeg

Bjorn Rådström (February 2013), Acting Manager of Transit Service Development, Winnipeg Transit, City of Winnipeg

Patty Regan (December 2014), former Acting Environmental Coordinator, City of Winnipeg

Martin Sandhurst (February 2013), former city planner, City of Winnipeg

Anders Swanson (February 2013), member, Mayor's Environmental Advisory Committee, City of Winnipeg