

1-1-2012

An Analysis Of Brownfield Redevelopment Projects In Mid-Sized Cities In Ontario

Thomas Green
Ryerson University

Follow this and additional works at: <http://digitalcommons.ryerson.ca/dissertations>

 Part of the [Urban Studies and Planning Commons](#)

Recommended Citation

Green, Thomas, "An Analysis Of Brownfield Redevelopment Projects In Mid-Sized Cities In Ontario" (2012). *Theses and dissertations*. Paper 1380.

This Major Research Paper is brought to you for free and open access by Digital Commons @ Ryerson. It has been accepted for inclusion in Theses and dissertations by an authorized administrator of Digital Commons @ Ryerson. For more information, please contact bcameron@ryerson.ca.

AN ANALYSIS OF BROWNFIELD REDEVELOPMENT PROJECTS IN MID-SIZED CITIES IN ONTARIO

by

Thomas Green, BA (H), Laurentian University, 2007

A Major Research Paper
presented to Ryerson University

in partial fulfillment of the requirements for the degree of

Master of Planning
In the Program of
Urban Development

Toronto, Ontario, Canada, 2012

© Thomas Green, 2012

AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this major research paper. This is a true copy of the major research paper, including any required final revisions, as accepted by my examiners.

I authorize Ryerson University to lend this major research paper to other institutions or individuals for the purpose of scholarly research

I further authorize Ryerson University to reproduce this major research paper by photocopying or by other means, in total or in part, at the request of other institutions or individuals for the purpose of scholarly research.

I understand that my major research paper may be made electronically available to the public.

AN ANALYSIS OF BROWNFIELD REDEVELOPMENT PROJECTS IN MID-SIZED CITIES IN ONTARIO

© Thomas Green, 2012

Master of Planning
In
Urban Development
Ryerson University

ABSTRACT

Brownfield redevelopment has become increasingly popular in the first part of the twenty-first century (Hollander, Kirkwood & Gold, 2010) because of the environmental, economic and social benefits realized from remediating and redeveloping brownfields. There has been little research conducted regarding the redevelopment of brownfields in smaller cities that do not have the strong market forces that have spurred brownfield redevelopment in locales such as Toronto and other large population centres. Municipalities with mid to low markets may need to take different approaches to redeveloping their brownfields and the current Provincial policies may not meet their needs. The purpose of this study is to investigate brownfield case studies in the cities of Sault Ste. Marie and Brantford, Ontario and offer explanations as to why some redevelopment plans have failed to occur in these communities and yet nearby sites have had success.

Key words: brownfield, remediation, greenfield

Acknowledgements

I would like to thank my supervisor Professor Christopher De Sousa for all of his feedback and patience. I also want to thank my second reader Mr. Don McConnell and all of my interviewees for taking their time to help me with this project.

I want to thank my Mom and Dad for their support and also some rent money. A big thanks goes out to my grammar coach and chief editor Uncle Ed.

To all my friends from the program it has been a long two years but I'm glad I got to spend it with you guys.

Contents

AUTHOR'S DECLARATION	ii
ABSTRACT	iii
Acknowledgements	iv
Chapter 1: Introduction	1
<i>Statement of Purpose.....</i>	<i>3</i>
<i>Background Brownfield Issue in Canada</i>	<i>4</i>
<i>Methodology.....</i>	<i>6</i>
Chapter 2: Literature Review of Barriers to Redevelopment.....	8
<i>Review of Canadian Government Agency Reports</i>	<i>11</i>
<i>Discussion of the Current Brownfield Barriers affecting Ontario</i>	<i>14</i>
Chapter 3: Ontario Brownfield Regulations and Tools	17
<i>Brownfield Regulations</i>	<i>17</i>
<i>Brownfield Resources</i>	<i>21</i>
<i>Brownfield Tools.....</i>	<i>25</i>
<i>Discussion: Brownfield Regulations and Tools</i>	<i>30</i>
Chapter 4: City Backgrounds	32
<i>Sault Ste. Marie.....</i>	<i>33</i>
<i>Brantford</i>	<i>34</i>
<i>Discussion of Sault Ste. Marie and Brantford.....</i>	<i>35</i>
Chapter 5: Sault Ste. Marie Case Study	38
<i>Introduction.....</i>	<i>38</i>
<i>Bay Street Condo Development Case</i>	<i>38</i>
<i>Gateway Site</i>	<i>40</i>
<i>Discussion.....</i>	<i>43</i>
Chapter 6: Brantford Case Study	46
<i>Introduction.....</i>	<i>46</i>

<i>Bay State Abrasives Site</i>	47
<i>Harding Carpets Site</i>	47
<i>Sydenham-Pearl Site</i>	48
<i>Greenwich-Mohawk Site</i>	49
<i>Discussion</i>	51
Chapter 7: Conclusion	54
Appendix A	58
<i>Interview Guide</i>	58
Bibliography	59
Figure 1: Map of Ontario municipalities	32
Table 2: Population Centre Demographics	37
Table 3: City Demographics	37
Table 4: Summary of Sault Ste. Marie Cases.....	45
Table 5: Summary of Brantford Cases	54

Chapter 1: Introduction

Brownfield redevelopment has become increasingly popular in the first part of the twenty-first century (Hollander, Kirkwood & Gold, 2010). Brownfields are undeveloped or previously developed sites that may be contaminated. There are many benefits to remediating or redeveloping brownfields including reducing environmental contamination, removing threats to health and safety, increasing property tax revenue, supporting economic development and contributing to community revitalization (NRTEE, 2003). This process can offer a more sustainable land-development choice than greenfields which have never been developed (Hollander et al., 2010).

Brownfield redevelopment embraces the concept of smart growth by effectively utilizing the current land inventory and community infrastructure. It re-employs capital that has already been spent on the existing infrastructure for hard and soft costs (roads, power grids, sewers, transit, police, proximity to labour sources, proximity to central city core and amenities, etc.) (AR, 2012). Revitalizing these tracts of land creates less need to develop on greenfields. It has been estimated that every hectare of land developed in a brownfield project may save up to 4.5 hectares of greenfield land in an outlying area from development (Deason, Sherk & Carroll, 2001).

There has been little research conducted regarding the redevelopment of brownfields in smaller cities that do not have the strong market forces that have spurred brownfield redevelopment in locales such as Toronto and other major population centres. In these smaller cities it seems that a sub-set type of brownfield has occurred where there is interest in their redevelopment but the project fails to get off the ground. These brownfields remain unrehabilitated despite a number of development proposals that can occur, sometimes over a span of decades. Municipalities where these types of brownfields exist may need to take different approaches to redevelopment than are typically used. There may also be a need

to change the current policies regarding brownfields in order to address the needs of these types of cases.

The City of Sault Ste. Marie has been attempting to have a brownfield known as the Gateway Site redeveloped for over a decade. The site is located on the waterfront in the city's downtown core. In the past thirteen years six different developers with varying proposals have come and gone. The site remains underused, despite the interest and funding money set aside for the redevelopment by the Northern Ontario Heritage Fund (Della Mattia, 2008).

The Greenwich-Mohawk brownfield in the City of Brantford is a 50 acre site that has been identified as a priority for redevelopment since 2000. The City has been working to remove barriers to development on the site by eliminating liens on the property, demolishing unsafe buildings, and removing debris (Brantford, 2011a). Most recently and after two years of negotiations the City cut its ties with a company that had proposed to undertake the site's redevelopment (Marion, 2011a).

Statement of Purpose

The purpose of this study is to investigate brownfield case studies in the Sault Ste. Marie and Brantford and offer explanations as to why some redevelopment plans have failed to occur in these cases and yet nearby sites have had success. The two cases will be analyzed in order to determine the challenges that smaller cities face in trying to redevelop brownfields sites and ways that they have overcome these barriers. Both will then be analyzed with respect to Ontario's Brownfield Policies in order to determine if present-day policies address the needs of Ontario's mid to low market cities.

Research Questions:

1. Why have Sault Ste. Marie's Gateway Site and Brantford's Greenwich-Mohawk Site failed to be redeveloped despite interest from the community and developers?
2. Why have other brownfields in the area of the sites been successfully redeveloped?
3. What are the current barriers to brownfield redevelopment in Ontario?
4. What tools and resources are available to Ontario municipalities to encourage brownfield redevelopment?
5. Do the current Brownfield Policies sufficiently address the needs of mid to low market cities in Ontario?

Background Brownfield Issue in Canada

Since the 1980s policy-makers have been giving increasing attention to the remediation and redevelopment of contaminated sites, especially those located in urban areas (DeSousa, 2001). Canada's approach to contaminated sites has long been established as the polluter should pay. This is the guiding principle behind Canada's National Contaminated Sites Remediation Program (NCSRP), which was initiated in October, 1989 by the Canadian Council of Ministers of the Environment (CCME). The NCSRP was established by the CCME in order to recognize the need for a consistent national approach for classifying and cleaning up contaminated sites in Canada (Therrien, 1995). The CCME is comprised of the ministers of the environment of the federal, provincial and territorial governments. The polluter pays principle that Canada's policies are based on can sometimes be a barrier to potential redevelopment. Some owners of contaminated properties would rather leave the land derelict than take the risk of selling the property for redevelopment and being responsible for the cost of any increased health or environmental risks (Hayek, Arku & Gilliland, 2010).

Policy making in Canada, with regard to contaminated site remediation, has evolved more slowly and in a more piece-meal manner than in the US and Europe (DeSousa, 2001). In 2003 the National Round Table of the Environment and the Economy (NRTEE) released their *National Brownfield Redevelopment Strategy for Canada*. The Federal Government mandated the NRTEE to prepare the Strategy after the 2001 federal budget. The 2003 NRTEE report made a number of policy, programming and funding recommendations for all levels of government. At present some of these recommendations have been implemented while others have not. After the release of the aforementioned 2003 report all levels of government began to take significant steps toward addressing the barriers to brownfield redevelopment and streamlining the process. Communities also began to realize the damage that the neglected sites were doing to their cities and the benefits that could be had by redeveloping them (Ross, 2005).

As brownfields started to receive more attention in Canada it became apparent that there were gaps in the policies addressing the issue (DeSousa, 2006). The policies addressing brownfields are typically federal or provincial in scope while most of the redevelopment takes place at the municipal level. The study by DeSousa (2006) also revealed that local government and privately supported efforts resulted in positive outcomes, but no standard approach for defining or tracking these outcomes existed. It was suggested that greater success in brownfield redevelopment might be realized with a more consistent local approach and additional assistance from upper levels of government (De Sousa, 2006).

In 2008, a review of the 2003 NRTEE report established that the report had been well received by the public and private sectors and the report was used as a guiding document in addressing the barriers to brownfield redevelopment. The review found that all levels of government should work together to coordinate their approaches to brownfield redevelopment and that communication and cooperation between the public and private sectors had played a major role in the development of successful brownfield strategies (OCETA, 2008). Finally the review found that significant actions have been taken by the public and private sector towards the recommendations made by the NRTEE Brownfield Strategy report (OCETA, 2008). To date the federal government has not played a role in addressing many of the recommendations set out in NRTEE Brownfield Strategy report. It appears that most of the changes have come from the provincial and territorial levels and the private sector. These issues will be further discussed in later chapters.

Methodology

The method used for researching and evaluating the redevelopment cases and Ontario's brownfield policies has several components. The first step was to conduct a review of the extensive literature available produced by academics, professionals, and government departments on brownfields and its related policy and legislation. This was done using search engines including the Ryerson University Library Search engine and multi-disciplinary databases such as Academic Search Premier. The next step was to review the provincial and municipal policies, legislations and tools relevant to brownfields. These included Ontario Regulation 153/04, Community Improvement Plans, the Green Municipal Fund and other policies and tools. Information was obtained by researching select internet websites, planning journals, relevant reports and policies and legislation.

Once the literature and the policies were reviewed two community cases were examined In order to assess the barriers to brownfield redevelopment in mid-sized cities in Ontario. The cases of Sault Ste. Marie and Brantford, Ontario were examined because these communities contain examples of successful brownfield redevelopments that are in close proximity to sites that remain unremediated despite decade-long campaigns from the municipality.

In Brantford the successful redevelopment sites examined were the "Bay State Abrasives Site" and the "Harding Carpets Site". The ongoing projects examined were the "Sydenham-Pearl Site" and the "Greenwich-Mohawk Site". In Sault Ste Marie the successful redevelopment of the "Bay Street Condos" was examined as well as the ongoing project of the "Gateway Site". The "Gateway Site" has had part of its lands successfully redeveloped into a Provincial Tourist Information Centre and the Sault Ste. Marie Casino but a portion of the site still remains underdeveloped. These projects were analyzed by reviewing newspaper articles and documents created by various firms and the municipal planning departments associated with the sites.

Finally, the study used semi-structured interviews to supplement the case studies and address the research questions and objectives posed. A list of potential participants was assembled using online searches to compile a list of public and private sector employees involved in the two case cities. Potential participants were contacted either by email or by telephone and the same script was read or sent in each case. They were subsequently forwarded a Consent Form explaining the study in detail before they agreed to participate. In total, approximately 11 public and private sector employees were contacted. Of these, 3 public sector employees were interviewed. Private sector employees were either unavailable or uninterested in taking part in the research project. One limitation to this study is that the timeframe and scope of this project made it difficult to interview key informants. Private sector employees were unable to participate in this research because of their schedules or were unwilling to participate and did not respond to requests for interviews. Potential interviewees were contacted multiple times throughout the study period by both email and telephone to no avail. Informants from the public sector were more willing to be interviewed. Interviews, which lasted between 30 and 50 minutes, were conducted over four months, from December 2011 to March 2012, by this report's author. In each interview, respondents were asked a series of semi-structured, open-ended questions from an interview checklist. The questions focused on respondents' perceptions of barriers to brownfield redevelopment in the city, tools successfully overcoming barriers to brownfield redevelopment and the effectiveness of Ontario's current brownfield policies. The interview guide can be found in Appendix A.

Chapter 2: Literature Review of Barriers to Redevelopment

A review of relevant scholarly literature was conducted in order to determine what the main barriers to brownfield redevelopment are currently. The issue of liability has been found to be a major barrier to brownfield redevelopment in both Canada and the United States (Hayek et al., 2010; Siikamäki and Wernstedt, 2008; Ellerbusch, 2006; Wernstedt et al., 2006; Lange and McNeil, 2004; Howland, 2003; De Sousa, 2001; De Sousa, 2000; Greenberg et al, 2000). Fear and the peril of future liability deter owners from cleaning up and selling their sites (Hayek et al., 2010). There is a fear of both regulatory liability as well as civil liability, the risk of lawsuits from workers, neighbours and future owners (Wernstedt et al., 2006). Ellerbusch (2006) found that liability also affected lenders' willingness to finance projects because of fear that they could be held responsible through their association with property owners who become legally responsible. De Sousa (2001) further stated that the issue of liability is a greater barrier in private redevelopments than it is in public redevelopment projects. Studies by Ellerbusch (2006) and De Sousa (2000) found that liabilities were perceived to be the foremost and most severe obstacle to brownfield redevelopment.

Lack of funding constitutes another major barrier to brownfield redevelopment projects (DeSousa et al., 2009; De Sousa, 2006; Lange and McNeil, 2004; McCarthy, 2002; De Sousa 2001; De Sousa 2000; Greenberg et al, 2000). DeSousa et al. (2009) noted that the lack of funding support is consistently identified in the literature as a key impediment to brownfield redevelopment. De Sousa (2006) wrote that according to local officials financial limitations continue to be the key challenge to successful brownfields redevelopment in Canada.

The cost of cleaning up contamination has been shown to be an impediment to brownfield redevelopment. (Hayek et al., 2010; Siikamäki and Wernstedt, 2008; De Sousa, 2006; Ellerbusch, 2006; Wernstedt et al., 2006; Howland, 2003). The additional costs associated with clean-up and

redevelopment of brownfields has often made them uncompetitive with greenfields. Respondents in the study by De Sousa (2006) pointed to clean-up cost as a serious obstacle for smaller sub-urban and exurban municipalities where greenfields are still available and in competition with brownfields for development.

The complexity and length of the regulatory process has been recognized as another obstacle to brownfield redevelopment (Hayek et al., 2010; Ellerbusch, 2006; Wernstedt et al., 2006; McCarthy, 2002; De Sousa, 2001; De Sousa, 2000; Greenberg et al, 2000). Complying with federal, provincial and local regulatory agency processes can involve substantial time costs for developers and investors (McCarthy, 2002). This additional cost can discourage developers from taking on a brownfield redevelopment as opposed to developing a greenfield site where there are fewer regulatory hoops to jump through. Additionally there is a general lack of knowledge and understanding about the economic, social, and environmental benefits of brownfield development, another barrier to redevelopment (Hayek et al., 2010; DeSousa et al., 2009; McCarthy, 2002).

Stigma or the negative perception of brownfield properties on the part of both the public and other stakeholders was found to be a difficulty in several studies (Hayek et al., 2010; Greenberg et al, 2000; De Sousa, 2000; Meyer and Lyons, 2000). Brownfield redevelopments may have a continuing stigma even after clean-up. This can lower the value of potential sales or rentals (Wernstedt et al., 2006). In the study by Hayek et al (2010) respondents noted that the public may fear “what’s still there” and other environmental issues even after remediation has been completed.

A shortage of developers experienced in brownfield redevelopment or with the technical skills to proceed with a brownfield redevelopment project was mentioned as an obstacle by Wernstedt et al., (2006) as well as Siikamäki and Wernstedt (2008).

Competition from greenfields was also found to hamper brownfield redevelopment (Hayek et al., 2010; De Sousa, 2006; McCarthy, 2002). The increased cost associated with clean-up as well as the perception of a circuitous regulatory process can make brownfield redevelopments uncompetitive with greenfield development. The regulatory process for brownfield redevelopment projects lengthens the redevelopment process and therefore increases the cost of the projects. In the study of the city of London, a mid-sized city in Ontario, Hayek et al. (2010) determined that the abundant supply of greenfield land in London is a major barrier to brownfield redevelopment as noted by all participants in their study. The report also identified the considerable supply of greenfields as a factor depressing the demand for brownfield redevelopment, while providing a safer option for development. To date, Hayek et al (2010) is the only intensive study that has focused on a mid-sized Canadian city's experience with brownfield incentives.

Insufficient information about the location and conditions of brownfields has been identified as a barrier to redevelopment (De Sousa, 2000). Very few cities have an inventory of their known or suspected contaminated sites. While departments of Canada's federal government have developed a consistent classification of contaminated sites no standard municipal approach for brownfield inventories exists and only a handful of cities have developed one of their own (Adams, De Sousa & Tiesdell, 2010). Hayek et al. (2010) stated that the lack of information on the location of brownfields and their extent within a city is an obstacle to creating effective policies. It is argued that planners and policy-makers need to know the extent of a city's brownfield problem before they attempt to create effective policies and legislation for redevelopment and before developers and municipalities make large monetary investments (Hayek, et al., 2010).

A recent study by Howland (2010) found that most of the literature and policies concerning brownfields emphasize environmental contamination as the main obstacle to industrial redevelopments. Howland

argues that by taking this narrow view policymakers may have overlooked other deterrents to redeveloping formerly industrial districts. Howland studied land sales over a 10-year period in an industrial district of Baltimore and identified other obstacles which included outdated road configurations, antiquated infrastructure, inadequate telecommunication linkages, incompatible residential and industrial land uses, obsolete buildings that prove expensive to demolish, and sellers who are unwilling to lower prices. The Howland study shows that in some cases it is not solely the environmental issues surrounding a brownfield site that prevent it from being redeveloped, although that may be the perception. There can often be a number of common obstacles to development present on or surrounding the site, which make it unmarketable.

The brownfields literature reviewed for this research project that focused on Canadian brownfields, mid-sized cities and barriers to redevelopment revealed that lack of funding, the issue of liability, the cost of contamination clean up, the complex regulatory process, lack of understanding about the benefits of brownfield redevelopment, lack of experienced developers, stigma, and competition from greenfields have consistently been found to be barriers to brownfield redevelopment in Canada.

Review of Canadian Government Agency Reports

Until recently the most extensive research available on the status of brownfield redevelopment in Canada had been undertaken by government agencies. The most comprehensive study on the issue of brownfields in Canada was the NRTEE 2003 report. The NRTEE report synthesized the results of stakeholder consultations, case studies of Canadian brownfield projects as well as studies commissioned by NRTEE to examine the economic impacts of brownfield redevelopment, the social benefits, the market failures, and international brownfield activities. The report also outlined the economic, social, and environmental benefits to brownfield redevelopment as well as the challenges. The most significant challenges to redevelopment are: lack of access to capital, regulatory liability risk, civil liability risk,

limited access to insurance protection, regulatory delays, stigma and risk perception, and lack of awareness among many key public sector and private sector groups (NRTEE, 2003).

In 2004 Canada Mortgage and Housing Corporation (CMHC) conducted a literature review and key informant interviews and found that brownfield redevelopment for housing shared the same traditional barriers as those experienced by brownfield redevelopment in general, such as liability, regulations, financing, technology, planning, stigma and others. However, with brownfield redevelopment for housing, the liability and regulatory barriers became more significant than the other obstacles because of the greater number of homeowners and renters exposed to potential risk (CMHC, 2004). The report by CMHC (2004) concluded that although some progress had been made in most provinces on regulatory barriers and on financial barriers more generally, the situation regarding brownfield redevelopment had not improved much from the late 1990s.

In 2008 a 5-year review of the 2003 NRTEE Brownfield Strategy examined changes implemented in response to the recommendations of the 2003 report and the public and private sector advancements with regards to brownfield redevelopment. The review was undertaken by the Ontario Centre for Environmental Technology Advancement (OCETA), on behalf of the Canadian Brownfields Network (CBN) and in collaboration with NRTEE. The study gathered information from government websites, third party reports and included a telephone survey of over 40 key stakeholders that included NRTEE Task Force Members and others from government and industry. The research was considered a preliminary “snapshot” not an in-depth study (OCETA, 2008).

One of the key findings of this report was that progress had been made to reduce the impediments to redevelopment in Canada but further work is needed. The barriers identified in the 2003 report are still relevant but there has been a reprioritization of their importance (OCETA, 2008). The most significant barriers were found to be regulatory risk and regulatory delays followed closely by access to capital.

Lack of awareness was no longer considered to be a major obstacle but is still a barrier in some regions of Canada. Lack of access to insurance was also found to no longer be a barrier and civil liability is still a risk but was stated not to be a major issue since it can often be dealt with once the other barriers such as regulatory liability are removed (OCETA, 2008).

The report also identified a number of new barriers which included:

- Value creation on brownfield sites;
- Inter-governmental relations;
- Labour market shortage in the contaminated site remediation industry
- Capacity building (OCETA, 2008).

Value creation is difficult on a brownfield site because the cost of clean-up or remediation can often be higher than the projected land values. As for intergovernmental relations, it was found that there is often a breakdown in communications and relations between federal, provincial/territorial and municipal governments. Harmonization of policies and cooperation among all levels of government is needed (OCETA, 2008). The report seems to indicate that this is more of an inter-provincial and federal issue rather than an intra-provincial issue.

Labour market shortage in the contaminated site remediation industry was found to be a new barrier in the 5-year review. As of the date of the report Canada's environmental sector was found not to be in a position to meet the human resource requirements associated with the clean-up of contaminated sites (OCETA, 2008). A failure to build capacity within the public and private sectors for brownfield redevelopment was also identified. Municipalities need training and tools to assist them in understanding the steps to redevelop brownfields. They also need guidance on how to make decisions based on the acceptable level of risk. The private sector still finds it easier to develop greenfields, where there is less risk and regulatory delays (OCETA, 2008).

The updated report concluded that the current barriers faced by Canada's brownfield industry are liability risk, regulatory delays, lack of access to capital, lack of awareness of the benefits of brownfield redevelopment, value creation, inter-governmental relations, labour market shortages, and capacity building. The report also concluded that barriers to brownfield redevelopment are often inter-related and by removing one barrier, there can be a positive impact on other barriers (OCETA, 2008).

The OCETA 5-year review reiterated that it was a preliminary study and recommended that a comprehensive study of the state of Canada's brownfield development industry be conducted. A more extensive study could promote better understanding and analysis of what characterizes the current barriers and possible solutions to motivate brownfield redevelopment (OCETA, 2008). That report was completed in 2008 but to date there has been no comprehensive study undertaken.

Discussion of the Current Brownfield Barriers affecting Ontario

The barriers found in the academic studies reviewed are often the same as those mentioned in the NRTEE (2003) and OCETA (2008) reports. There are some minor variations in the ranking of importance of the barriers from one report to the other. There are also barriers noted that are not common to each report. The NRTEE and OCETA reports focused on the state of the Canada's brownfield redevelopment industry as a whole. The scope of this paper is to specifically study Ontario. Some of the findings in the OCETA (2008) report indicate that Ontario has had more success in reducing some of the barriers than other provinces and Canada as a whole.

Limited access to insurance protection was listed as a significant challenge to redevelopment in the report by NRTEE (2003) but this was not mentioned in any of the academic literature and the OCETA (2008) study concurred that this was no longer a major issue as well. Liability was a major barrier to brownfield redevelopment that was identified in both the OCETA (2008) report and the review of

academic literature, as was lack of funding, a shortage of expertise in the remediation industry and a lengthy regulatory process which caused delays. Lack of awareness of the benefits and challenges of brownfield redevelopment were recognized as barriers in both the review and the report. The report (OCETA, 2008) does mention that Canada and Ontario have had success in increasing awareness; however there is still a need for more work to be done.

Value creation was found to be a new obstacle to brownfield redevelopment in the study by OCETA (2008). Value creation is a very broad subject that encompasses a number of issues. Many specific issues that can affect value creation were identified in the academic literature, for example cost of clean-up and stigma. Competition from greenfields, which are easier to develop, was also demonstrated to be a barrier to brownfield redevelopment in academic studies. This issue also makes it difficult to create value on a brownfield site, especially in mid-size cities in the periphery.

The OCETA, 2008 report also indicated that inter-governmental relations are a more recent impediment to successful brownfield redevelopment. The report seems to indicate that this is an inter-provincial and federal issue rather than an intra-provincial issue. Ontario is mentioned in the report as having had success in improving inter-governmental relations through the creation of the Brownfields Coordinator Office, under the Ministry of Municipal Affairs and Housing (OCETA, 2008). Capacity building was also determined to be another barrier by the report. The report does however note that Ontario is a leading province in facilitating capacity building for brownfield redevelopments. A number of brownfield tools and resources have been developed by the Provincial Government and other public and private sector stakeholders. Municipalities in Ontario are also showcased as having created opportunities for capacity building (OCETA, 2008).

Lack of an existing comprehensive brownfield inventory and lack of a consistent approach for developing one is an important roadblock that is recognized in the academic literature but was not

covered in the NRTEE and OCETA reports. Also, as was argued by Howland (2010), the environmental contamination issue on some brownfield sites may overshadow a number of common development barriers that the site poses which contribute to it being unmarketable for redevelopment.

Significant actions have been taken by the public and private sector towards the recommendations made by the NRTEE Brownfield Strategy report (OCETA, 2008). It seems however, that the federal government has not played as large of a role as it could have in addressing many of the recommendations for reducing the barriers to brownfield redevelopment set out in the NRTEE 2003 Brownfield Strategy Report. On balance most of the changes seem to have come from the provincial and territorial levels and the private sector.

Chapter 3: Ontario Brownfield Regulations and Tools

Brownfield Regulations

In order to address the issue of contaminated or perceived to be contaminated sites that had the potential to be remediated the Minister of Municipal Affairs and Housing introduced Bill 56, entitled the Brownfields Statute Law Amendment Act, 2001. This coincided with the government's Smart Growth Initiative. The Act forms the legal foundation for Ontario's brownfield revitalization initiative. Bill 56 resulted in the production of Ontario Regulation 153/04, the Record of Site Condition (RSC) Regulation, which sets out the technical requirements for conducting Environmental Site Assessments, Site Remediation and Risk Assessments. The Act was a positive step in brownfield development but did not address significant liability risks involved in brownfield redevelopment. The Act was criticized by some stakeholders and practitioners as not going far enough but was acknowledged as an important first step in implementing a brownfield development program in Ontario (Bowman, Curpen, Kirby, 2002).

In early 2009 the Ontario Ministry of the Environment (MOE) staff sought approval for proposed changes to the Government's Brownfields Regulation, 153/04. Experts in the field of brownfield remediation protested that the rules would cause the redevelopment process to be slower and more expensive (New Canadian Brownfield Rule Proposed, 2009). The ministry then revised its proposals and in late 2009 the MOE filed its amendments to Ontario Regulation 153/04. The amendments are intended to facilitate brownfields redevelopment and create a more transparent RSC submission and filing process (Coburn, Kramer, Walker, 2010). Most of the regulatory amendments came into force on July 1, 2011.

Record of Site Condition

A Record of Site Condition confirms that the soil and groundwater at a brownfield meet the applicable government standards for an existing or proposed property use. Filing an RSC can often be the final step in the remediation process for a brownfield property. It is most often mandatory to file an RSC when a property is changed to a more sensitive use, as happens when a property is being converted from an industrial to a residential use. Municipalities, insurers, and bankers will often insist on the filing of an RSC whether or not it is mandatory in the case of a brownfield redevelopment (MMAH, 2011a). A brownfield site must be properly assessed by a Qualified Person before an RSC can be filed on the Brownfields Environmental Site Registry website, where it is accessible to the public. Once the RSC is filed it can result in limited liability protection for the buyer and seller of the brownfield property (OCETA, 2008). This liability protection has also been extended to municipalities in Ontario (OCETA, 2008). Ontario Regulation 153/04 defines what constitutes a person qualified to conduct environmental assessments and file RSC's. Qualified persons for conducting and supervising Phase One and Phase Two Environmental Site Assessments include people licensed under the Professional Engineers Act or the Professional Geoscientists Act, 2000.

Environmental Site Assessment

Prior to being able to file an RSC an environmental site assessment (ESA) must be completed. ESA's are the process for investigating sites that are suspected to be contaminated. ESA's can comprise of three parts; Phase I, Phase II and if deemed necessary a Risk Assessment. A Phase I ESA explores the likelihood that one or more substances have contaminated all or part of a property. The process uses a variety of methods, including investigations of past uses, interviews, mapping and site visits. If the Phase I ESA determines that there is a likelihood of one or more contaminants having affected all or part of the property, a Phase II ESA is required (MMAH, 2007a). If not, the owner can receive and file an RSC.

A Phase II ESA is a more intensive study that provides a characterization of the location and concentration of one or more contaminants. This involves sampling all or some of the following: soil, groundwater, surface water or sediments for contaminants indicated as likely to be present by the Phase I ESA. The concentrations of compounds found by the study are compared to levels established by the MOE to determine if they exceed the acceptable standards (Reynolds, 2012). If the concentrations of compounds are found to be within the acceptable levels the owner can receive and file an RSC.

Site Specific Risk Assessment

In cases where contaminants at a brownfield site may be present at concentrations higher than generic standards set out in Ontario Regulation 153/04 a property owner can consider developing property-specific standards by preparing a risk assessment. A Risk Assessment scientifically examines the risk posed to humans, plants, wildlife and the natural environment from exposure to a contaminant. Risk assessment can help develop property-specific standards that will be compatible with the proposed use of the property (MOE, 2011).

Ontario Regulation 153/04 specifies who is qualified to conduct a risk assessment. There are additional education and experience requirements for conducting risk assessment instead of a generic Phase I or Phase II Environmental Site Assessment. A Record of Site Condition can be submitted if the property meets alternative standards that have been specified in a risk assessment accepted by the MOE (MMAH, 2011a).

One of the main issues with using the risk assessment approach is that there are often serious process delays related to regulatory approvals in many jurisdictions (OCETA, 2008). The process for risk assessment has recently been streamlined which may help expedite redevelopment. The new process uses a web-based ministry-approved model to generate property-specific standards based on specific site conditions (MOE, 2011).

Tax System

Ontario has a formal process in place to remove crown liens and tax arrears from brownfield properties that have a failed tax sale (OCETA, 2008). If a property that has gone into tax arrears for the period specified under the *Municipal Act, 2001*, then a municipality can initiate a tax sale of the property. By advertising the tax sale of a brownfield property, a municipality may stimulate new interest in the redevelopment of the property (MMAH, 2007a). If a tax sale should fail Section 379 (7.1) of the *Municipal Act, 2001* removes certain provincial Crown liens where a municipality chooses to assume ownership of a property that has failed a tax sale. Federal liens are not subject to this piece of legislation (MMAH, 2011c).

Community Improvement Plan

Under the provisions of Section 28 of the Planning Act municipalities are allowed to provide certain forms of financial assistance to private sector developers through a community improvement plan (CIP) (DiFrancesco, 2006). A CIP allows municipalities to target specific areas for redevelopment and offers a range of financial tools related to brownfield redevelopment. The municipality must create a set of CIP policies which are adopted in the Official Plan and create a by-law to designate a Community Improvement Project Area (CIPA) in order to use public funds to clean-up and redevelop sites if deemed necessary (Reynolds, 2011).

Brownfield Resources

Provincial Government

The Government of Ontario has helped educate municipalities on the benefits of brownfield redevelopment through publications by the Ministry of Municipal Affairs and Housing. These publications and guides give municipalities insight as to how they might approach brownfield redevelopment. They also identify tools and strategies to support municipalities with redevelopment activities and demonstrate successful redevelopment cases. The publications include:

Brownfields Showcase I (2000)

Brownfields Showcase II (2004)

Brownfield Redevelopment in Small Urban and Rural Municipalities (2007)

A Practical Guide to Brownfield Redevelopment (2007)

Financial Tools for Brownfields Redevelopment (2007)

Ontario service Station Redevelopment Framework (2008)

Planning and Revitalization Tools for Commercial Areas in Small Towns (2008)

The Ministry of Municipal Affairs and Housing has created two publications that specifically address the issue of brownfields within the context of smaller municipalities; *Brownfield Redevelopment in Small Urban and Rural Municipalities* (2007) and *Planning and Revitalization Tools for Commercial Areas in Small Towns* (2008). These documents are both four page information pamphlets that give a very basic summary of the brownfields issue and ways of dealing with it. Although these publications are small they are significant because the Province has specifically targeted small urban and rural communities and recognized that their situation with brownfields is distinct from that of large municipalities.

The documents outline the regulatory process and environmental remediation processes associated with brownfields and explain the planning tools available for addressing brownfields. The publications also point to more extensive information sources such as websites, handbooks and the Municipal Services Offices. The two documents do give specific examples of the kinds of brownfields that can be found in smaller communities but there are no tools or processes that are specific to smaller cities. They are identical for all Ontario municipalities regardless of size or location.

CIELAP (Canadian Institute for Environmental Law and Policy)

The Canadian Institute for Environmental Law and Policy (CIELAP) launched its online Guide to Brownfield Redevelopment in 2011. CIELAP is an independent, not-for-profit research and education organization that has been recognized as one of Canada's top environmental think tanks. Its mission has been to inform legislative, policy and regulatory outcomes for sustainability at the national and provincial/territorial levels of government in Canada (CIELAP, n.d.). The organization has been conducting research and publishing reports on national issues for almost 40 years.

CIELAP's Guide to Brownfield Redevelopment highlights how brownfield regulation has evolved in Ontario. Its purpose is to help members of the public understand and participate in brownfield redevelopment. It also serves as a useful resource for municipalities who are beginning a brownfield redevelopment process (Carter-Whitney, Webb, & Campbell, 2011). The online guide published by CIELAP is an important education and awareness tool for helping the public to understand the importance of the brownfield issue. Lack of education about brownfields has been cited in academic literature as a barrier to brownfield redevelopment (Hayek et al., 2010; DeSousa, et al., 2009).

Canadian Brownfields Network

The NRTEE National Brownfield Redevelopment Strategy for Canada, 2003 recommended that a national brownfields network be established in Canada. The Canadian Urban Institute (CUI) and partners of aboutREMEDICATION.com (AR) rose to the challenge and founded the Canadian Brownfields Network (CBN) in March 2004 (Lomas-Jylha, 2005). Both CUI and AR are outreach organizations and they created the CBN to be an information exchange where the public, government, developers and others interested in the discipline of brownfield redevelopment can find out about innovative approaches, policies and strategies. The CBN is also a communication forum where members can seek partnerships to make redevelopment projects successful (Network for brownfielders, 2004).

The vision of the CBN is to promote brownfield property reuse as the preferred solution by developers. Its mission is to be recognized as the primary source for brownfield redevelopment. It seeks to accomplish this by providing research, advocacy, and clarity on issues related to brownfields (CBN, 2010). The CBN has helped to make significant progress in the realm of Canadian brownfield redevelopment (Lomas-Jylha, 2005). Some of the highlights include: assisting in removing Crown Liens and Tax Arrears; assisting with the development of the Green Municipal Fund Concept; establishing the Canadian Brownfield Conferences (Lomas-Jylha, 2005).

Ontario Municipal Brownfields Redevelopment Toolbox

The Ontario Municipal Brownfields Redevelopment Toolbox is a guide for municipalities to assist them with urban redevelopment and revitalization. The toolbox is featured on the aboutREMEDICATION website. It enumerates 10 key elements that cities should consider when creating a vision for brownfield redevelopment. It identifies common obstacles, issues, mandatory requirements, resources,

tools and solutions to assist in successful redevelopment (AR, 2012). The 10 key elements are summarized below:

1. **Build a Team** - Municipalities should build a multi-department team to spearhead redevelopment in the community. Since brownfields are a multi-disciplinary issue that fall within the responsibility of multiple city departments a Brownfields Coordinator should be assigned to initiate and coordinate communication with the team and the municipality.
2. **Create a Land & Building Inventory** -The land and building inventory should identify vacant, idle, underutilized, aging buildings and properties that may be redeveloped. The inventory should use terminology such as “Improvement Areas” since identifying a property as a brownfield without proof of contamination may lead to legal recourse or stigmatization.
3. **Raise Awareness and Identify Barriers** – Municipal staff and council members should raise awareness of the benefits and barriers to brownfield redevelopment. Education and community outreach is an important factor in changing the public perception of brownfields
4. **Consult with Community Stakeholders** - Municipalities must engage stakeholders in order to build partnerships and build momentum to make brownfield redevelopment a priority. The municipal brownfields team should develop a Working Group comprised of team members and community stakeholders.
5. **Conduct Research** –The market and factors that will shape the brownfield redevelopment strategy should be thoroughly researched. Environmental assessments and feasibility studies of sites are also key research components of the brownfield redevelopment strategy.
6. **Develop a Business Case** - The business case analyzes the economic, social and environmental benefits of brownfield redevelopment. It should establish capital and operating budgets and create scenarios to calculate anticipated revenue generation due to brownfield redevelopment.
7. **Prepare the Implementation Tool** -Implementation tools include CIPs, Brownfield redevelopment Strategies, and Marketing Plans
8. **Identify Opportunities & Properties** - Sites should be prioritized to approach the most viable sites and Requests for Proposals (RFPs) should be prepared for municipally owned sites
9. **Work with Property Owners & Developers** –Municipalities should communicate with property owners and developers and provide municipal assistance throughout the redevelopment process. It is important to be flexible and encourage creative thinking and collaboration from all parties and stakeholders
10. **Monitor the Project** - The progress of all projects should be monitored and success stories should be showcased through the media, publications, conferences, etc.
(Lomas-Jylhä & Coutinho, 2011)

Brownfield Tools

Community Improvement Plan

Through a Community Improvement Plan (CIP), municipalities can encourage brownfield clean-up and redevelopment by offering financial incentives to owners and tenants within a designated community improvement area. These incentives can include grants and/or loans to assist with feasibility studies, municipal fees and eligible costs. Municipalities may also provide other incentives that supplement the CIP including the exemption or reduction of fees for:

- official plan or zoning bylaw amendments
- building permits
- parking requirements
- parkland dedication and/or development charges for specific types of development

The provision of these incentives can have a substantial impact on the financial viability of brownfield rehabilitation (MMAH, 2007a; MMAH, 2007b).

Study Grant Program

In connection with CIPs, municipalities can provide grants to reimburse some of the costs of undertaking environmental remediation studies. The studies typically funded through these grants collect information about contamination levels at a site and potential remediation costs. Examples of the types of studies funded by various municipalities include Phase I/II Environmental Site Assessments, Risk Assessments, and Feasibility Studies (MMAH, 2012)

Façade Grant or Loan Program

Local programs to make grants or loans available to improve or restore building exteriors can be found in conjunction with CIPs. Some municipalities will provide this funding to a brownfield redevelopment if the site is located within the designated CIPA (MMAH, 2012).

Municipal Fees Grant Program

Some municipalities offer grants to development or redevelopment projects within the CIPA which assist with the cost of various municipal fees. Eligible fees vary between municipalities and CIPs and have included:

- Planning and development application fees such as minor variances or site plan adjustment
- Building permit fees for building or site demolition permits
- Sign permit fees
- Legal fees
- Tipping fees.

Municipalities sometime include tipping fees and legal fees as part of the eligible costs which a Tax Increment Equivalent Grant (TIEG) awards back. In some cases, such as Port Colborne, projects approved for a TIEG or tax assistance program do not require a separate application for a fees grant (MMAH, 2012).

Tax Assistance

Municipalities can provide tax assistance to encourage the cleanup of contaminated properties. Section 365.1 of the *Municipal Act, 2001* allows municipalities to create a by-law which allows them to cancel or defer the municipal and/or education portions of property tax during the development period of a property to assist with costs of environmental remediation (MMAH, 2012). The education portion of the property tax is levied by municipalities on behalf of the Province. In order to obtain cancellation of the education portion, a municipality must first offer cancellation of the municipal portion for the eligible brownfield property and then apply to the Minister of Finance to provide matching education tax assistance (MMAH, 2012). This program is known as the Ontario Brownfields Financial Tax Incentive Program

Tax Increment Equivalent Grant

A Tax Increment Equivalent Grant (TIEG) is financial assistance equal to the municipal tax increase following the completion of a project which has resulted in an increase in the value of a property. Municipalities estimate the amount of the potential increase using a base assessed value (MMAH, 2012). TIEGs are typically used to offset redevelopment costs. They are a “pay as you go” grant - meaning the owner is responsible for the up-front remediation costs. In some municipalities, if both a tax assistance program as well as a TIEG program is offered, the TIEG may begin when the tax assistance program ended (MMAH, 2012).

TIEGs are often referred to as "Rehabilitation and Redevelopment Grants" in municipal CIPs. However, a TIEG is paid out over a period of years following redevelopment, based on the tax increase, whereas the Rehabilitation and Redevelopment Grants provide up-front funds (MMAH, 2012).

Rehabilitation and Redevelopment Grants/Loans

Rehabilitation and redevelopment grants or loans are up-front direct financial assistance for eligible redevelopment activities. A study by the Office of the Provincial Brownfields Coordinator in October, 2012 revealed that no municipalities were currently offering up-front rehabilitation grants.

Municipalities cited various challenges associated with offering these grants, including questions of how to fund up-front grants, and the risk of a project going into default (MMAH, 2012)

Development Charges Reductions

Some municipalities exempt all or a part of development charges as one of the tools to promote brownfield redevelopment. Development charges are legislated under the Development Charges Act, 1997 not the Planning Act. Municipalities must provide for such a reduction or exemption directly in the

development charges by-law (MMAH, 2012). Alternatively, some municipalities offer a rebate or grant program under Section 28 of the Planning Act, to offset the development charge (MMAH, 2012).

Development charge exemptions, or equivalent grants in practice are offered relatively early in the redevelopment process compared to other grant programs, which increases their popularity (MMAH, 2012).

The Green Municipal Fund

The Government of Canada endowed the Federation of Canadian Municipalities (FCM) with money to establish the Green Municipal Fund (GMF) a perpetual endowment fund to support municipal initiatives that reach high standards of environmental protection (FCM, 2012). Three types of municipal environmental initiatives are funded: Plans, Studies, and Projects. Funding is allocated in five sectors of municipal activity: brownfields, energy, transportation, waste and water. There are annual limits on the available funding which allows the GMF to fund numerous projects

Green Municipal Fund support is available to all Canadian municipal governments and their partners in eligible projects, whether they are FCM members or not. The fund is administered by the FCM; however the initial investment for the fund came from the Federal Government. Interestingly funds from the GMF are considered municipal funds, not federal funds. This means that they can be combined with federal funding in a jointly funded municipal project (FCM, 2012).

Originally the GMF was used for infrastructure projects and did not specifically deal with brownfields. In 2005 the Federal Government granted \$150 million to the GMF funding to be used as a permanent source of financing for brownfield remediation and redevelopment (Lomas-Jylha, 2005). This was likely a response to the recommendations of the NRTEE National Brownfield Redevelopment Strategy for Canada, 2003. Recommendation 1.4 of the report was *Provide revolving Loans for Qualifying Brownfield Sites*. This was listed as a responsibility of primarily the Federal government.

The three types of municipal environmental initiatives that are eligible for GMF support will be explored in this section. The initiatives include Plans, Studies, and Projects. In 2012–2013, the GMF is aiming to approve \$6 million in grants for plans, feasibility studies and field tests combined. These grants can cover 50% of eligible costs to a maximum of \$175,000. The GMF has specific eligibility criteria that must be met in order for an initiative to be approved for funding.

Plans

Plans eligible for grants include sustainable neighbourhood action plans, community brownfield action plans and greenhouse gas (GHG) reduction plans. A community brownfield action plan identifies priority redevelopment zones and opportunities including incentive programs and municipal actions to promote the remediation, rehabilitation and adaptive reuse of underused properties in a community (such as community brownfield strategies, community improvement plans or revitalization plans) (FCM, 2012).

Feasibility Studies

A feasibility study typically includes an assessment of the requirements and outcomes of a specific project leading to a recommended course of action. For initiatives in the brownfields sector, Phase 2 Environmental Site Assessments (ESA) and site-specific risk management plans are considered feasibility studies. Field tests may also be eligible for funding under the feasibility study category. A field test is the small-scale testing of a new system, technique or technology. The project should contribute to cleaner air, water, soil, or reduce greenhouse gas emissions (FCM, 2012).

Projects

The GMF usually offers a combination of grants and below-market loans to implement capital projects. However, in the case of the brownfield sector, grants are not available. The loan limit for a brownfield capital project is decided on a per-project basis. The loan rate is much lower than traditional funding sources; 1.5% below the Government of Canada bond rate. Funding is provided for up to 80% of eligible project costs. In 2012-2013 the GMF is aiming to approve a minimum of \$20 million in loans to

brownfield project (FCM, 2012). For a brownfield capital project to be eligible for GMF support it must bring a contaminated site back into productive use and reduce the need for greenfield development.

Discussion: Brownfield Regulations and Tools

Provincial policies regarding brownfields focus on environmental protection and public health and safety standards that a redevelopment project must meet. The changes made to the tax system have reduced some of the barriers to brownfield redevelopment but some issues with Federal liens remain. The CIP policies do encourage brownfield development by making it possible to provide incentives, however the responsibility for funding the incentives lies with the municipalities. It is not often possible for a municipality to dedicate the amount of capital needed to complete a large scale redevelopment project on their own. The current policies seem to reduce some of the barriers to brownfield redevelopment but are not yet at a point where they are actively promoting the activity.

There are a number of capacity building and educational resources available to guide municipalities and the private sector when conducting a brownfield redevelopment project in Ontario. The private sector has taken it upon itself to offer guides and toolboxes to assist anyone who is taking on a brownfield redevelopment. The Province is also providing tools and learning programs for municipalities to encourage them to redevelop their brownfields. These resources assist brownfield redevelopment by informing decision makers and planners.

There are some financial tools available to assist with brownfield redevelopments in the province but most of the money is coming from the municipalities. The financial tools allow municipalities to forgive fees and taxes but do not provide much upfront funding (MMAH, 2012). The Province can provide financial assistance by forgiving the school portion of income tax but does it not supply any grants or upfront capital.

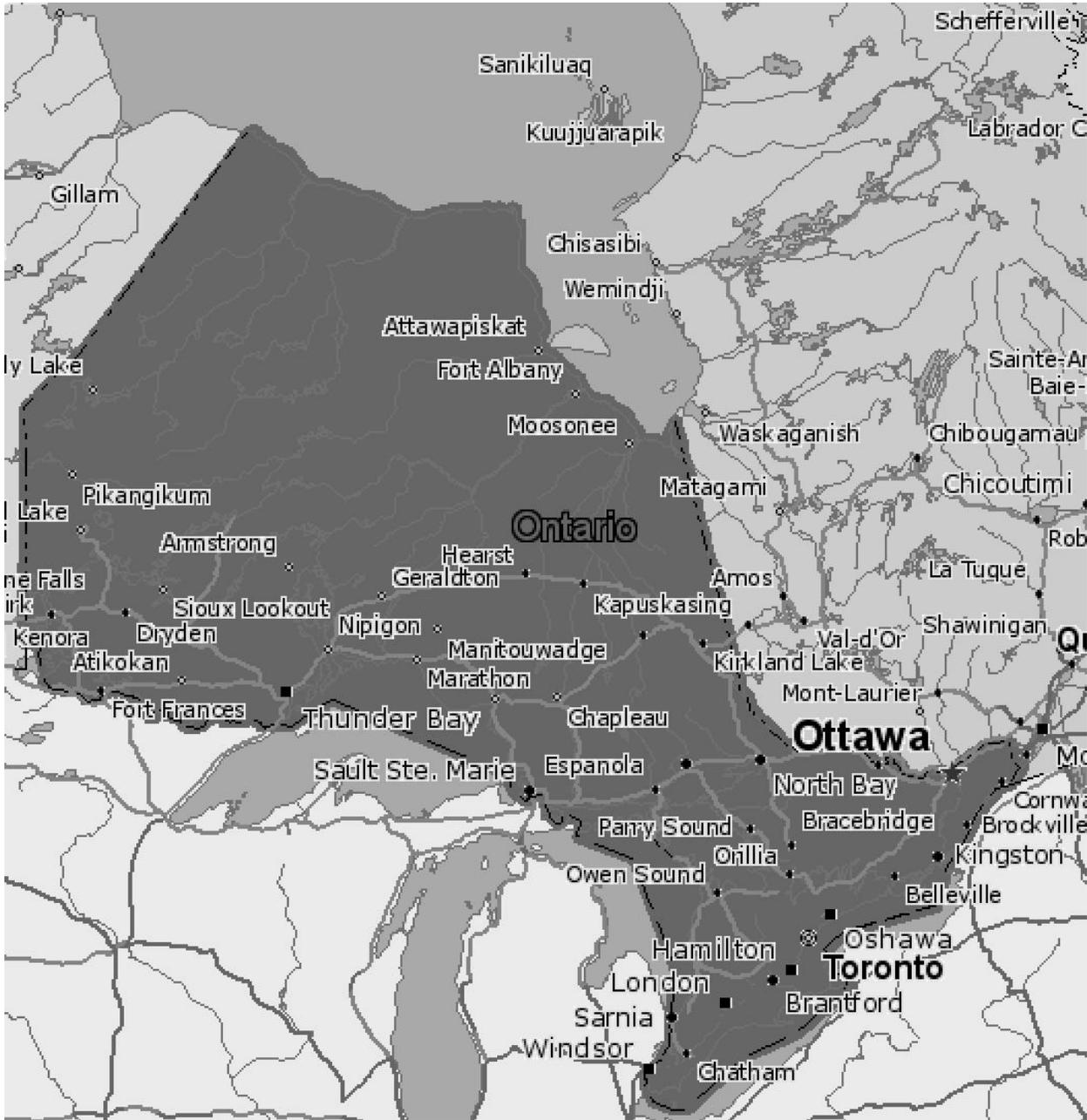
The GMF has recently opened up funding for brownfields and is getting more interest but it is not large enough to assist with all of the brownfield projects in the province. The GMF can provide some upfront funding and also provides more financial options to assist with brownfield redevelopment.

Table 1: Brownfield Barriers and Tools Comparison

Barriers	Tools that Address Barriers
Liability	Filing an RSC can provide regulatory protection. Civil liability is still possible.
Lack of funding	GMF, BFTIP, CIP most of the funding programs provide a reimbursement or deferment of fees. There is little upfront funding available.
Cost of clean-up	GMF, BFTIP, CIP have programs to aid with studies and remediation costs.
Lengthy regulatory process	Recent changes have tried to streamline the process and public and private sector have published guidance material for developers.
Stigma	Stricter regulatory process and increased public awareness have lessened stigma surrounding brownfield redevelopments.
Lack of understanding of benefits	Increased public awareness and publications and campaigns from the public and private sector have increased understanding.
Lack of developer experience	More of an issue in Northern Ontario. More brownfield development occurs in Southern Ontario.
Competition from greenfields	CIP provides some incentive for brownfield redevelopment but often not enough to make it competitive.
Lack of information about conditions/lack of an inventory	Very few communities have a brownfields inventory. CIPs require a defined area which often contains many of the city's brownfields; however the whole city can be designated within the area.
Inter-governmental relations	Ontario Brownfields Coordinator Office was created to improve inter-governmental relations and communications.
Capacity building	Tools and resources created by the Ministry of Municipal Affairs and Housing, the Canadian Brownfield Network, the Canadian Urban Institute, and Federation of Canadian Municipalities.

Chapter 4: City Backgrounds

Figure 1: Map of Ontario municipalities



Source: <http://reallymadeincanada.info>

Sault Ste. Marie

Sault Ste. Marie is a single-tier municipality located in the Algoma District of Northern Ontario. It is the third most populous city in Northern Ontario, following Sudbury and Thunder Bay. In 2011 the city had a population of 75 141 and covered a total land area of 223 km², with a population density of 336 people per km². From 2006 to 2011 the population increased by 0.3%. (Statistics Canada, 2012^a). Sault Ste. Marie is located within the planning area of the *Growth Plan for Northern Ontario, 2011*. It is a border town. Across the St. Mary's River to the south is the United States. The International Bridge connects Sault Ste. Marie, Ontario to Sault Ste. Marie, Michigan.

The city's location on the St. Mary's River was an important factor in the founding of the city. The river was a major transportation route during the fur trade and a trading post was established here. In later years the city's waterfront, like many other cities, was an important location for industry. Many industries relied on the river to ship large quantities of raw materials for production. Some industries also needed to locate on the waterfront in order to access large volumes of water for use in their manufacturing processes.

Sault Ste. Marie's population boomed in the 1960s and 1970s due to manufacturing. The economy of the city relied on steel-making and other resource based industries including paper making and forestry. However, as the Sault experienced a decline in manufacturing, a number of vacant and underused industrial sites appeared on the city's waterfront and within the downtown.

In the 1990s and early 2000s the city's population went into sharp decline and the city has been trying to diversify its economy since then. The city has attempted to attract other economic activities including tourism, service industries and education sectors. Part of the plan to attract new industries and diversify

the economy has been to redevelop the city's brownfields, especially those in the downtown and on the waterfront.

Sault Ste. Marie has had some success with a number of brownfield redevelopment projects since the early 1990s. However there are also cases where a site has not yet been able to be redeveloped despite the efforts of the city. Interestingly two of the longest undeveloped brownfields sites are adjacent to a successful redevelopment project.

Brantford

Brantford is a single-tier municipality located within the county of Brant in Southern Ontario. In 2011 the city had a population 93 650 and covered a total land area of 72 km², with a population density of 1 292 persons per km² (Statistics Canada, 2012^a). Brantford is located within the planning area of the *Growth Plan for the Greater Golden Horseshoe, 2006*.

The City of Brantford is located on the Grand River, the largest river in southwestern Ontario. Brantford became an important industrial centre for Canada in the first half of the 20th Century. Its location on the Grand River was an integral part in the development of the city and its eventual success as a manufacturing hub. The river connects with Lake Erie and provides access to markets and goods.

At one time Brantford was one of the largest industrial centres in Canada and one of the wealthiest cities in the region (Dafler, 2012). The economy of Brantford was based around the agricultural machinery industry; companies such as Massey-Ferguson and the Cockshutt Plow Company had their manufacturing operations located in the city.

During the 1980s and 1990s the economy of Brantford was in steady decline as a result of many of the large manufacturing companies in the area closing their local operations. The closure of these facilities left many of its citizen's unemployed and also resulted in large areas of brownfields within the city.

In recent years Brantford has been recovering from this economic depression that resulted from its loss of manufacturing. There has been an influx of new companies into to the area (Rodrigues, 2012a) and Brantford's downtown has been reinvented as a university and cultural district. The city has also made extensive efforts to redevelop existing brownfield sites and like Sault Ste. Marie has had some success.

Discussion of Sault Ste. Marie and Brantford

Both of the Cities being used for the case studies are mid-sized, single-tier municipalities. Each of them was centred on an industrial manufacturing economy. The cities' waterfront locations were integral to their founding and the proximity to major shipping routes allowed for them to boom during the height of Canada's manufacturing era. The decline of the manufacturing industry, beginning in the 1980s, led to sharp declines in the economies of both Sault Ste. Marie and Brantford. This in turn led to the appearance of a number of underused, abandoned, and contaminated sites on the landscape of the cities as manufacturing and industrial companies closed or moved to cheaper markets. Sault Ste. Marie and Brantford have been contending with redeveloping these brownfields, often in the downtown or along the waterfront, since the early 1990s. In some cases the brownfield projects have been successful despite the barriers faced by these mid-sized cities while in other instances the brownfields remain despite the interest and efforts of the city.

If the population centres for each city are compared they have a similar population density. Brantford's 2011 population density was 1275 persons per km² while Sault Ste. Marie was 1177 persons per km². The total 2011 population for the Sault Ste. Marie population centre was much smaller than that of Brantford's population centre. Brantford's total for its population centre in 2011 was 93 650 while Sault Ste. Marie's was 67 646. The population centre of Sault Ste. Marie is a much smaller land area than the actual city boundary which includes many areas that are not yet developed which accounts for the discrepancy in population density between the city and the population centre. Sault Ste. Marie's city

boundary is 223 km² and its population centre is 57 km², while Brantford's city boundary and population centre are an almost identical 73 km² (see Table 1 and 2).

The cities seem to have had encountered different obstacles in their pursuit of brownfield development and as such their approaches to successful redevelopment projects have differed. Many of the completed projects in Sault Ste. Marie have been public projects that involved funding from the federal or provincial governments. Brantford has had issues with orphaned properties that fall into disrepair and the city assumed responsibility for liabilities and clean-up costs.

Table 2: Population Centre Demographics

Population and dwelling counts	Sault Ste. Marie Population Centre	Brantford Population Centre
Population in 2011	67,646	93,650
Population in 2006	67,734	90,192
2006 to 2011 population change (%)	-0.1	3.8
Total private dwellings	30,973	39,397
Private dwellings occupied by usual residents	29,757	37,500
Population density per square kilometre	1,177.2	1,275.2
Land area (square km)	57.46	73.44

Statistics Canada. 2012. *Sault Ste. Marie, Ontario (Code 0739) and Brantford, Ontario (Code 0092)* (table). *Census Profile*. 2011 Census. Statistics Canada Catalogue no. 98-316-XWE. Ottawa. Released February 8, 2012.

<http://www12.statcan.ca/census-recensement/2011/dp-pd/prof/index.cfm?Lang=E>

Table 3: City Demographics

Population and dwelling counts	Sault Ste. Marie City	Brantford City
Population in 2011	75,141	93,650
Population in 2006	74,948	90,192
2006 to 2011 population change (%)	0.3	3.8
Total private dwellings	33,901	39,397
Private dwellings occupied by usual residents	32,517	37,500
Population density per square kilometre	336.6	1,292.3
Land area (square km)	223.26	72.47

Statistics Canada. 2012. *Sault Ste. Marie, Ontario (Code 3557061) and Brantford, Ontario (Code 3529006)* (table). *Census Profile*. 2011 Census. Statistics Canada Catalogue no. 98-316-XWE. Ottawa. Released February 8, 2012.

<http://www12.statcan.ca/census-recensement/2011/dp-pd/prof/index.cfm?Lang=E>

Chapter 5: Sault Ste. Marie Case Study

Introduction

In 2006 Sault Ste. Marie City Council approved by-law 2006-32 which designated the entire city as a CIPA as of 2007 (IBI Group, 2007). The Sault's CIP had several incentive programs that could have assisted with brownfield redevelopment. It offered a Study Grant Program, a Façade Improvement Grant, a TIEG, a BFTIP, and a Building Restoration and Improvement Grant (MMAH, 2011b; SSMDIDDI, 2007). The "Downtown" is a target area within the CIPA and has a number of policies and programs that apply within it. The Gateway Site and the Bay Street Condo developments, discussed in this section of the report are both located within this target area. The original incentive programs developed for this area were operative for three years (2007-2009) and have now expired. The city has reviewed the programs and determined that they were extremely successful, achieving a private/public sector investment ratio of 7:1. The City is now working on a second phase for this initiative (Downtown Development Initiative, 2012).

Sault Ste. Marie has no development charges so they do not offer a development charge reduction or grant for brownfield redevelopments. According to the Sault Ste. Marie Economic Development Corporation the City also has the lowest tax rates in Northern Ontario which provides a low cost of doing business and should be an incentive for development (SSMEDC, 2011).

Bay Street Condo Development Case

In 2009 a Brownfield Strategy Symposium was held in the City of Greater Sudbury. Mr. Don McConnell, the Planning Director for the City of Sault Ste. Marie gave a presentation that highlighted the many examples of brownfield redevelopment that have occurred on the Sault Ste. Marie waterfront in the last 20 years. Two examples that were showcased as successes were the development of condominiums and

an apartment building on the properties of 723 Bay St and 719 Bay St. This area was a former oil tank “farm” and in 1995 a developer built a 26 unit condo on it. Due to the site’s past usage and the history of industrial uses of adjacent sites the Ministry of the Environment and Energy was concerned about the possibility of soil contamination on the site. This was before RSC regulations. It was recommended that a qualified engineer monitor any excavation work to direct proper handling and disposal of any material on site (Planning Division, 1993). It was also agreed that the building would have no basement and that a vapour barrier would be installed below the footings to ensure that no odours could ever work their way up through the soil and into the building (McConnell, 2009). This building was the first stage in the development of the site but due to the local market’s inability to support more of this type of development it was 13 years before the second phase of the project could be completed (Purvis, 2007; McConnell 2009).

The second phase of the project included a second condo building and a conventional 35 unit apartment building. Construction of the two buildings was staggered in order to save on labour costs. The same crews were used for both buildings so that once they had completed their work on one building they would shift over to the next one. This development was constructed as part of the City’s Downtown Community Improvement plan and was eligible for a 3 year municipal property tax increment rebate. The rebate amounted to 75 percent of the tax increase in 2008, 50 percent in 2009, and 25 percent in 2010 (City Council, 2007; McConnell, 2009). Over the three year period the developers paid only half of the taxes that they normally would have for both buildings. The tax assistance that was made available to this project through the City’s CIP did have an impact on moving the project forward and overcoming some of the financial barriers that may have prevented the successful redevelopment of the site. A public sector employee stated that the developers indicated they had been struggling with the decision of whether or not to go ahead with the project and the tax break was a factor. The developers did not say that it was the deciding factor but it was a consideration. This project did not receive the funding

because it was a brownfield but because it was a major development, over \$1 million, within the Downtown Development Area. The respondent indicated that the developers did not proceed with the BFTIP program to recover the education portion of the property tax from the Province because of a perceived lengthy regulatory process and they were satisfied with receiving the municipal portion of the tax break.

Gateway Site

The City of Sault Ste. Marie has been attempting to redevelop a brownfield known as the Gateway Site for over a decade. The site is located on the waterfront in the city's downtown core. It has a history of interested parties putting forward development proposals that do not come to fruition. Funds set aside for the redevelopment by the Provincial Government has attracted a number of developers but has not proven to be a strong enough catalyst for the project to proceed to completion. The history of the site and the issues that have been faced in this case are discussed in order to examine the barriers to redevelopment that have prevailed.

The original Gateway Site was approximately 13 ha (32 acres) and was previously used as a scrap metal recycling operation; as storage and settling ponds for a chrome plant and later a municipal fish hatchery (Planning Division, 1997). The northern section of the site was purchased by the Ontario Lottery and Gaming Corporation (OLG) and successfully redeveloped into a charity casino. Prior to the redevelopment environmental audits were performed to investigate and document areas of site contamination (Planning Division, 1997). OLG retained the services of an engineering firm to prepare a site specific risk management plan in accordance with MOE guidelines. The City of Sault Ste. Marie had these plans peer reviewed by an independent firm before accepting it in order to minimize the risk of future liability. Existing soils on the site were covered by effective barriers including asphalt, buildings and landscape improvements in order to mitigate any exposure to possible contaminants (Planning

Division, 1999). The Sault Ste. Marie Casino was highlighted as a successful brownfield redevelopment case in the Ministry of Municipal Affairs and Housing's first *Brownfields Showcase* publication. It was said to be successful because the site was suitable for a major development and the Provincial Government invested funds for the project; contamination issues could be mitigated at minimal cost; the city took a proactive approach to prepare the site for redevelopment and any issues were resolved early in the process (MMAH, 2000).

The Provincial Tourist Information Centre which sits on the northwest corner of the site and is adjacent to the Casino is also a remediated brownfield site. It was built in 1993 with funding from the Provincial Government due to the site's proximity to an international border crossing. The 1.5 acre site was remediated using "dig and dump" techniques. The top five feet of fill was removed from the site and replaced with clean fill as a condition of selling the land. The cost of this remediation was kept to a minimum as the site was owned by Algoma Steel which also owned a local landfill site that was licensed to accept contaminated materials (McConnell, 2009).

The southern section of the Gateway Site has proven to be more difficult to redevelop than the northern half. The City's vision for the site is as a destination/tourism attraction that is self-sustaining, creates jobs, boosts overnight stays and blends well with nearby attractions and the city's boardwalk (Ross, 2008). The Michigan Sault Tribe of Chippewa Indians expressed interest in the development in 1998 but they broke off discussions later that year. The Tribe would not agree to take on the whole project and the city did not want a twin pad arena on the site as they had proposed (Ross, 2002; Della Mattia, 2007; Della Mattia, 2008a). First Gulf Development of Mississauga then proposed a multi-purpose arena on the site in 1999. The developer and the City ended discussions partly as a result of First Gulf disagreeing with council's decision to extend Bay Street, a main traffic artery, in front of the casino, thereby splitting the Gateway Site in two. The two parties also failed to reach agreement on

components that should be incorporated in the project (Ross, 2002; Della Mattia, 2007; Della Mattia, 2008a). The City then released a prospectus on the municipally-owned property and went searching for a new developer. In 2001, Toronto-based MagiCorp Entertainment Inc. put forward its proposal for a full-scale tourism destination. The concept was adopted by various partnerships each of which proceeded to come apart. In 2005, Legacy Quest submitted a plan that included a hotel, restaurants, cafes, theatres, an education component and a relocated tourist train station (Della Mattia, 2007). The Northern Ontario Heritage Fund Corporation announced its approval to release \$15 million to support the tourist attraction portion of the project. The money had been earmarked in the late 1990s for a major tourism destination in Northern Ontario. The total project value had to be \$50 million in order to qualify; Sault Ste. Marie was the only project that met the criteria (Ross, 2006; Della Mattia, 2007). However, in 2007 the City severed its ties with Legacy Quest when their contract expired and the developer had failed to produce plans to move forward with the project (Della Mattia, 2007; Della Mattia, 2008a). A re-tendering process was carried out and Toronto-based CCI Development Group announced its plans to create a mixed-use development on the waterfront with significant tourist components (Della Mattia, 2008b). In 2008 the developer was unable to proceed with the project citing the faltering economy at the time (Della Mattia, 2008b; Della Mattia, 2009).

At present the \$15 million funding from NOHFC is off the table because too much time has passed. The Sault Ste. Marie Economic Development Corporation has now taken over responsibility for marketing the site and creating a business plan. They have partnered with Tourism Sault Ste. Marie to create a Gateway Committee. To date the committee has commissioned conceptual drawings for the future development and has secured \$100 000 from the City to complete a business plan (Della Mattia 2010a; Della Mattia 2010b; Della Mattia 2011a).

The City has invested a great deal of effort and funding into testing, marketing and preparing the Gateway Site for redevelopment. Phase I and II environmental testing has been completed on the site and the city has stated its willingness to assist the developer in ensuring that the site is remediated to Government of Ontario standards (The Corporation, 2008a). Market area research has also been completed and is available to potential investors (The Corporation, 2008c). The City is willing to work with developers and has even stated that it may contribute to the cost of development by means of providing some infrastructure or other investment (i.e.: servicing) (The Corporation, 2008b).

The barriers to redeveloping the south portion of the Gateway Site have had little to do with Ontario's brownfield Policies. The most significant barrier to this redevelopment project has been the market and the economy. Sault Ste. Marie does not have the market to attract a private developer to take the risk on a brownfield redevelopment of this magnitude. Another issue with the site is that the goal has always been to redevelop it into a tourist attraction and it has not been opened up to other potential uses. The OLG charity casino and the Provincial Tourist Information Centre were successful brownfield redevelopments because they were public projects funded by the Provincial Government. The Province is more willing to take on a brownfield redevelopment because of public benefits that are realized whereas the private sector will only take the risk if the monetary gain is significant enough.

Discussion

The case studies of brownfield projects in Sault Ste. Marie were accompanied by interviews with local experts in order to gain a better understanding of what the barriers to brownfield redevelopment are in the city in general and also how the municipality has dealt with them.

The barriers present in Sault Ste. Marie appear to be consistent with those found in the literature: lack of funding, the issue of liability, complex regulatory process, lack of experienced developers, stigma, and

competition from greenfields. The market and low land values in the city do not create the conditions for brownfield redevelopment without assistance in the cases examined here. The incentives provided by the City's CIP were shown to be a consideration in one of the successful private redevelopment projects but the main reason for that project's success was changes in the market which made the project viable.

An interview respondent stated that the most significant barriers to brownfield redevelopment in Sault Ste Marie are the cost of competing land. "The land values aren't high enough and there are cheaper sites around town. Developers don't want to go through this process when there are simpler and cheaper properties available." This was also found to be the case with De Sousa's (2006) and Hayek et al's (2010) studies which found that abundant greenfields depressed demand for brownfield redevelopment. The respondent also indicated that the development industry in Northern Ontario is not familiar with the brownfield redevelopment process and are not comfortable with it. Wernstedt et al. (2006) found this to be a barrier to redevelopment because less experienced developers are not willing to attempt a brownfield project unless there are bigger incentives.

The issue of liability was mentioned by a respondent as being the most significant barrier to another potential brownfield redevelopment site in Sault Ste. Marie. This issue has also been mentioned recently in the local newspaper. SUNCOR Energy owns a ten acre site, adjacent to the Bay Street Condo Development. At one point it was host to a "tank farm" for storing gasoline, diesel fuel, and other oil products. The company has maintained that the property is not available for development but the City is hoping to form a partnership with the company and access Green Municipal Funding to assist with the cost of environmental assessments (Della Mattia, 2011b). The respondent indicated that the company is most likely not interested in selling or developing the site because it does not want to risk the future

liability associated with any development. This type of situation was also found to be a major barrier to brownfield redevelopment in Hayek et al's (2010) study of London, Ontario.

The respondent did state that cost of clean-up has not been a significant barrier in Sault Ste. Marie. "A lot of redevelopment has been done using site specific risk assessment so it's not a big risk and not a big cost." However most of the redevelopment projects in the city have been public projects such as the casino and tourist information centre as previously mentioned. "The public has a different philosophy than the private. The public looks at key properties located near downtown and the waterfront and it's not just about making a buck."

Successful redevelopment projects in the City of Sault Ste. Marie were often projects that were funded federally or provincially. The successful projects were those that were remediated with relatively low costs and were the most obviously profitable. This finding is consistent with De Sousa's (2006) study that in Canada it is the easiest brownfields are getting redeveloped.

Table 4: Summary of Sault Ste. Marie Cases

Criteria	Bay Street Condos	Provincial Tourist Information Centre	Casino Sault Ste. Marie	Gateway Site
Were there barriers to redevelopment?	The local market	Cost of clean-up, the local market	Cost of clean-up, the local market, liability	Cost of clean-up, the local market, liability
Were specific tools or resources used?	CIP and tax increment rebate	None	Site Specific Risk Assessment and peer review of plans	Environmental Assessments and funding from Northern Ontario Heritage Fund
What were the main reasons for success?	Changes in the market and low clean-up costs	Provincial funding and owner disposing of contaminated soil	Provincial funding, mitigating clean-up cost through risk assessment	Site is still awaiting redevelopment

Chapter 6: Brantford Case Study

Introduction

The City of Brantford has made brownfield redevelopment a priority in their community. In 1998 the City established a Brownfields Committee and in 1999 it created a Brownfields Reserve Fund which would collect revenues and taxes from rejuvenated brownfield sites to be used for assessment and clean-up of other brownfields (Brantford's Brownfields Initiative Milestones n.d.). Brantford City Council approved a Brownfields Strategic Action Plan that outlined the City's approach to facilitating the remediation and redevelopment of brownfield sites in 2002 (City of Brantford, 2002). The City also has in place a Community Improvement Plan which guides municipal activity in brownfield redevelopment and establishes the city's brownfield incentive programs. These incentives include a Study Grant Program, Financial Tax Incentive Program, Performance Tax Grant Back Program and Development Charge reduction (City of Brantford, 2005).

While the Study Grant Program can assist in the cost of ESA's the Financial Tax Incentive Program can cancel or reduce the amount of property taxes collected for municipal purposes to assist with the cost of site assessments and remediation. This program is designed to work in conjunction with the provincial version of the Brownfield Financial Tax Incentive Program which may provide a rebate for the school portion of property taxes. The Performance Tax Grant Back Program provides grants to assist with remediation costs based on the estimated increase in the municipal property taxes collected once redevelopment is completed (City of Brantford, 2005). The City of Brantford Development Charges by-law provides a reduction of development charges for lands located within the city's CIPA. The bylaw states that the development charge will be reduced by an amount equal to the cost of the environmental remediation of the land required for the proposed development (City of Brantford, 2012).

Bay State Abrasives Site

The property at 186 Pearl Street was selected by the City of Brantford's Brownfields Committee as their redevelopment pilot site in 2000 (Brantford's Brownfields Initiative Milestones, n.d.). The property was a priority for redevelopment because of its close proximity to a local hospital (Brantford, 2011b). The property is 0.6 acres in area and is the former site of Bay State Abrasives Industries; it had been vacant since 1990. When the company went bankrupt and its assets were forfeited to the Crown, they then came under the management of Public Trustee for Ontario. The property had \$190 000 owing in municipal taxes and over \$650 000 in federal and provincial liens (Brantford, 2011b). With the co-operation of the Public Trustee, the City carried out ESA's, demolition and remediation of the site. The City did not receive any financial support from the Province for these undertakings; they were completed and entirely paid for by the City's Brownfields Reserve Fund (Brantford's Brownfields Initiative Milestones, n.d.). After an unsuccessful tax sale the City, in partnership with Enterprise Brant an Economic Development Corporation funded by the Federal Government (Enterprise Brant, 2012), redeveloped the property as a neighbourhood park (Brantford, 2011b).

Harding Carpets Site

The 10-acre former Harding Carpets site at 85 Morrell Street became an unsafe brownfield after the company went bankrupt and abandoned the property in the early 1990s (Morrell Redevelopment, n.d.). The property was in municipal property tax arrears to the amount of about \$3.8 million (Brantford, 2011). The City acquired the property after an unsuccessful tax sale in 2003, cleared title and sold it to King and Benton Development Corporation (Marion, 2011b) The buildings had become an illegal dumping site and were filled thousands of old tires, drums of toxic chemicals and other garbage (Morrell Redevelopment, n.d.). The developer demolished some of the buildings and converted the rest into a warehousing operation, several offices and a community room available to non-profit groups and local

clubs free of charge (Marion, 2011b; Morrell Redevelopment, n.d.). This project was the first in the Brantford area to file an RSC verifying that the redeveloped site had been remediated to provincial standards. The developer was not required to provide an RSC for this redevelopment since it was done prior to regulations coming into effect; however they filed for an RSC anyway stating that it was to set an example of responsible development (Morrell Redevelopment, n.d.). It is likely the RSC was filed in part because of the limited liability protection that it provided. In 2011 King and Benton Redevelopment Corp. partnered with Multani Homes to build a mixed-housing subdivision with 47 single-family homes, 36 street townhouses, a medical clinic, offices and a neighbourhood commercial enterprise on the site (Marion, 2011b). Currently the development has received approval of official plan and zoning by-law amendments, as well as subdivision plans and the MOE is satisfied that the site has been remediated to meet residential standards (McMillan, 2011).

Sydenham-Pearl Site

The Sydenham-Pearl Brownfield site consists of two properties: 17 Sydenham Street is a former Crown Electric manufacturing site and 22 Sydenham Street is a former Domtar (Northern Globe) manufacturing site. Domtar manufactured roofing materials and the property contained a number of underground storage tanks (Belko Group, 2002). Since 1910 the Crown Electric property was used for industrial activities that included steel foundry operations, metal plating and tire recycling (Jagger Himms Ltd., 2006). The Sydenham-Pearl site area is approximately 2.4 ha (6 acres) and while mostly surrounded by a residential neighbourhood it directly abuts the CN rail line on the north side. The City became the owner of both properties in 2006 following unsuccessful tax sales (Brantford, 2011c). The City used money from its Brownfield Reserve Fund for demolition of buildings on the site and to conduct environmental site investigations (Brantford's Brownfields Initiative Milestones, n.d.). It was determined that the site

was contaminated and environmental remediation would be required to obtain an RSC to allow the site to be available for more sensitive uses, such as for housing or parkland (Brantford, 2011c).

The City issued a Request for Proposal (RFP) for the purchase, remediation and redevelopment of the site. The RFP asked for proposals for a residential development on the site. In 2007, the City entered into an agreement with the Brantford Land Revival Corporation for them to proceed with remediation and redevelopment of the property (Brantford, 2011c).

The Brantford Land Revival Corporation was the first private developer to secure a grant from the FCM's Green Municipal Fund (Brant News, 2010). However the Corporation could not overcome the opposition of CN Rail, which objected to a housing development next to its shunting yard because of concerns over the noise and vibration from the trains (Brant News, 2010; Marion, 2011c). An interviewee stated that the odd shape of the site has also been a complication to redevelopment because it limits the amount of houses that could be built on the site. City Council terminated their agreement with the Brantford Land Revival Corporation on March 21, 2011 and has since held public meetings and workshops with local citizens to determine how to proceed with the remediation of the site (Brantford, 2011c; Marion, 2011c).

Greenwich-Mohawk Site

The Greenwich-Mohawk Brownfield Site is a 50-acre brownfield site located in the Southeast area of Brantford. The site is a land assembly of 3 properties known as 22 Mohawk Street, 66 Mohawk Street, and 347 Greenwich Street. All three properties are currently owned by the City of Brantford (Brantford, 2011a). The properties were at one time the manufacturing plants of farm machinery. Many of the remaining buildings on the site are in disrepair and are unstable and must be demolished (Brantford Brownfields, 2008). Due to its past manufacturing history the site is contaminated with hydrocarbons, heavy metals, and volatile organic compounds. Some of the on-site structures contain asbestos, PCBs,

and lead-based paints which must be disposed of as part of the remediation strategy for the site (Brantford Brownfields, 2008). The site has been secured with fencing and 24 hour security in order to minimize any vandalism and arson on the site (Brantford Brownfields, 2008).

A tire fire that occurred at 66 Mohawk Street in 1997 was the catalyst for the community's demand for the clean-up of the Greenwich-Mohawk site (Marion, 2011d; Brantford's Brownfields Initiative Milestones, n.d.) In 1999 the first of many community consultations took place to gain input on the possible future of the Greenwich-Mohawk lands. Since that time the city has also undertaken multiple assessments, surveys, and studies of the site (Brantford's Brownfields Initiative Milestones, n.d.)

In 2000, the city put one of the Greenwich-Mohawk properties on its list of 15 brownfield sites targeted for action and over an eight-year period it acquired all three properties (Marion, 2011d). Throughout the property acquisition process, the City worked to remove many of the barriers to development on the site. This included expunging federal and provincial liens and tax arrears on the property, demolishing unsafe buildings, and removing debris and unsafe materials (Brantford, 2011a; Brantford's Brownfields Initiative Milestones, n.d.). The City had lobbied for federal and provincial assistance to remediate the site and were successful in securing a \$12-million grant from the federal government in 2006 and a \$5-million grant from the provincial government in 2007 (Marion, 2011d; Greenwich-Mohawk Brownfield Project, n.d)

In 2008 the City issued an RFP for redevelopment of the site and received one proposal from Terrasan Corporation. The City chose Terrasan as a partner for a the proposed \$200-million cleanup and redevelopment project which would be funded by the Provincial and Federal Government and a GMF loan (Marion, 2011d; Greenwich-Mohawk Brownfield Project, n.d) In 2011 the city cut ties with the developer after concerns over inactivity and divisions of the company filing for bankruptcy. The City has decided to move forward with the project as a municipal undertaking and is presently assessing the site

conditions and consulting the local community (Marion, 2011f; Greenwich-Mohawk Brownfield Project, n.d). Interview respondents stated that one of the biggest complications to redeveloping the Greenwich-Mohawk site is cost/benefit between cleaning the site and the value of the land after development. The estimated cost of remediating the site is between \$20-30 million and the estimated value of the land after remediation would only be \$5 million (Brantford Brownfields, 2008). An interviewee also mentioned that the shape and size of the site as well as the rail line bisecting the property posed some complications. The Federal Government funding agreement secured for the remediation was also seen to pose some barriers. The agreement requires the City to complete the entire redevelopment at once. A previous developer would have preferred to have cleaned up and developed the site in phases and used the capital from the completed phase to assist in developing the next phase.

Discussion

As with the case of Sault Ste. Marie the Brantford case studies were complemented with expert interviews in order to gain a better understanding of the barriers affecting brownfield redevelopment in the city and how they are being dealt with.

The barriers present in Brantford are mostly consistent with those found in the literature: lack of funding, the issue of liability, complex regulatory process, and competition from greenfields. All of these barriers were found to be present in the cases studied in Brantford. As with the case of Sault Ste. Marie, the market and low land values in the city do not create the conditions for brownfield redevelopment without assistance in most cases. One informant stated “This is not Toronto. There is not the demand [for developers] to go through all the obstacles that are there [in redeveloping brownfields].”

Sites in Brantford that remain underdeveloped are those that are also highly contaminated, and have complications because of the size and shape of the site and nearby rail-lines. The Sydenham-Pearl and

Greenwich-Mohawk Sites are highly contaminated and the high cost of clean-up makes them uncompetitive with greenfield properties that are available in the area. This issue is consistently found to be a barrier to brownfield redevelopment (Hayek et al., 2010; Siikamäki and Wernstedt, 2008; De Sousa, 2006). The two sites are also subject to a number of development barriers that Howland (2010) found to be present in former industrial sites, which are often overshadowed by the issue of contamination. These two sites are faced with the issues incompatible residential and industrial uses (trains) and obsolete buildings that are expensive to demolish which contribute to them being difficult to redevelop.

Interviewees stated that stigma was no longer a major barrier to brownfield redevelopment in Brantford. They stated that the City had been very active in creating awareness of the benefits of brownfield redevelopment and the citizens are well informed. The stricter remediation standards required by the Province was also said to have created less fear that redeveloped sites may still pose a public health risk.

Lack of experienced developers was also not seen as a barrier to redevelopment in Brantford. Interview respondents stated that developers that have conducted brownfield redevelopments in the city have been experienced. One informant mentioned that the new MOE regulations for Qualified Persons gives some assurance that people involved in the RSC process are knowledgeable. Brantford's location in Southern Ontario and its close proximity to Toronto may explain why the city has not had issues with inexperienced developers. This is still considered a barrier in Sault Ste. Marie which is much further from the province's centres of development. Respondents also stated that the Places to Grow Act is helpful in general for brownfield remediation because it requires a certain amount of development to be infill and limits the amount of greenfield development that can occur.

In the 1990s and the early 2000s Brantford had many issues dealing with federal and provincial liens and escheated properties. It appears that progress has been made in this area as a result of legislation changes and that these are no longer major barriers (OCETA, 2008). Brantford has also successfully dealt with many of the public health and safety issues that their brownfields pose by utilizing the Brownfield Reserve Fund that the City created. The capital from this fund is used for emergency demolition, removal of underground storage tanks, clean-up, and studies on brownfield site within the city. It has also helped to make many of these brownfields more attractive for development. Incentive programs provided by the municipality are not often utilized but are also a fairly recent initiative. The CIP was perceived to be a good tool because it defined an area for improvement and allowed the City some flexibility. The Brownfield Tax Increment Program was viewed as being particularly useful, the Provincial portion was perceived to be guarded by the Province and not often accessed.

As was the case with Sault Ste. Marie, the successful redevelopment projects in Brantford were publicly funded or those that were remediated with relatively low costs and were the most obviously profitable. Once again this finding is consistent with De Sousa's (2006) study that in Canada it is the easiest brownfields are getting redeveloped.

Table 5: Summary of Brantford Cases

Criteria	Bay State Abrasives Site	Harding Carpets Site	Sydenham-Pearl Site	Greenwich-Mohawk Site
What were the barriers to redevelopment?	Federal and Provincial liens, Cost of clean-up, the local market	Cost of clean-up, tax arrears on property	High cost of clean-up, shape of site, incompatible adjacent land uses	High cost of clean-up local market, size of the site
What tools or resources were used?	Tax Sale and Brantford's Brownfield Reserve Fund	Tax Sale and RSC	Tax Sale and Brantford's Brownfield Reserve Fund	Federal and Provincial funding support, GMF, Brantford's Brownfield Reserve Fund
What were the main reasons for success?	Municipal support and funding, small site, removal of liens and partnered with EDC	City cleared the property title, experienced developer and market	Site is still awaiting redevelopment	Site is still awaiting redevelopment

Chapter 7: Conclusion

Despite interest from the community and developers in the past Sault Ste. Marie's Gateway Site and Brantford's Greenwich-Mohawk Site have failed to redevelop mostly due to market forces. The market in Sault Ste. Marie does not support a large scale tourist attraction that the proposed Gateway redevelopment is intended to be. The market in Brantford does not support brownfield redevelopment, especially not one that is the scale of the Greenwich-Mohawk site. The land values are not high enough in the area and the cost of remediation the site would be more than the value of the redeveloped land. There is also so much greenfield available in these municipalities that there is very little demand for brownfield redevelopment. The cost of site clean-up, the issue of liability and the lengthier regulatory process has caused brownfields to be uncompetitive with greenfield properties.

There have been successful brownfield redevelopments in these two cities and there are several reasons for their success. In Sault Ste. Marie the successful redevelopments had low clean-up costs because of low contamination levels or the cost was mitigated. Projects were supported by the municipality and in most cases were public projects that had some associated Provincial or Federal funding. In Brantford the successful cases had municipal support and municipal funding was used for much of the site clean-up. One case was a public project which was a small site with low clean-up costs and the other was a private site that was remediated once the city removed liens and tax arrears on the property. In all of the brownfield cases analyzed in this study some type of public contribution was needed for the project to be successful.

Liability is still a major barrier to brownfield redevelopment as is lack of funding and a lengthy regulatory process which causes delays. In some areas of the province there appears to be a shortage of developers with experience in brownfield redevelopment. Competition from greenfields, which are easier to develop, is also a major barrier to brownfield redevelopment because it makes it difficult to create value on a brownfield site. In Ontario it does not appear that lack of awareness of the brownfield issue, inter-governmental relations and capacity building are major barriers. The Provincial government, Brownfields Coordinator Office and municipalities have had some success in addressing these obstacles in Ontario.

In the Province of Ontario there are a number of tools and resources available to encourage and assist with brownfield redevelopment. The Ontario tax system allows a municipality to put properties that are in tax arrears up for sale and also remove certain liens against the property to make it marketable for redevelopment. The Record of Site Condition regulations allow for limited liability protection on a brownfield property. Community Improvement Programs allow municipalities to provide some incentive programs for brownfields redevelopment. The Green Municipal Fund can provide some upfront funding

and also financial assistance for studies and remediation costs associated with brownfield redevelopment. The private sector and organizations like the Canadian Brownfields Network have taken it upon themselves to offer guides and toolboxes to assist anyone who is taking on a brownfield redevelopment. Publications created by the Government of Ontario also give municipalities insight as to how they might approach brownfield redevelopment..

The findings of this study are consistent with the findings of the Hayek et al. (2010) study of London Ontario which found that the market, not financial incentives, drives brownfield redevelopment through demand for redevelopment. In the municipalities of Brantford and Sault Ste Marie and likely many of Ontario's mid-sized cities this demand is lacking. Hayek et al. (2010) stated that policy-makers must address the economic problems and fears faced by land-owners in order to stimulate brownfield redevelopment. The results of this study indicate the same conclusions that the liability issue and funding are the major barriers to brownfield redevelopment in mid-sized cities. As one informant stated; "The Province needs to limit the liability; the laws need to be changed. The courts haven't recognized limits to liability only the MOE has."

The successful redevelopment projects highlighted in this study indicate findings consistent with De Sousa's (2006) study which stated that developers are "picking the low hanging fruits" and taking on the simple projects or the most transparently profitable. De Sousa stated that cities with industrial legacies, weak real estate markets and limited resources face the toughest challenges and that greater assistance from upper levels of government is needed. The study agrees with those findings. The two cities used as cases in this study exemplify the types of cities that DeSousa was taking about. Statements from interview respondents echoed this sentiment; "The municipal government's role is to make sure the water's clean and we pick up our garbage and we have sewer treatment and all of those things. It's not

the highest priority to clean up our brownfields when we have all those other issues...like how are we supposed to do that?"

This study revealed that gaining access to the school portion the Brownfield Tax Increment Program, which is administered by the Province through the Ministry of Finance, is perceived to be an arduous task not worth pursuing. This places much of the funding responsibility for brownfield redevelopment on municipalities as it appears that the municipal portion of the program is pursued more often and granted more readily.

The Province has made some regulation changes and created policies which remove barriers to brownfield redevelopment but it has not gone far enough in most cases for projects to get off the ground. As one informant stated; "The current policies work with the exception that the developer still needs an incentive. The regulations are correct, this is the level of clean-up that we need, no one is questioning that. It's the money and the liability that are causing projects to fall off the table." Another informant said of the current policies relating to brownfields; "They are better than they were. But it would be helpful to have...assistance particularly in the circumstances of difficult sites in small urban centres to level the playing field and begin remediation." The policies do not seem adequate in most cases to allow cities with mid-to-low markets to actually redevelop their brownfield sites. Where the provincial or federal government has an interest in a brownfield redevelopment project and facilitates funding of the project there has been success. In cities where the market is not strong enough to entice private developers to take on brownfield sites the responsibility of redeveloping these sites is left to the municipality. These smaller municipalities do not have the resources to take on project of this magnitude. The Province has addressed some of the major impediments to redeveloping brownfield sites, however a great deal more government financial assistance is required and limitations to civil liability must be addressed if Ontario is going to clean up its brownfields.

Appendix A

Interview Guide

1. What are the barriers to brownfield development in your city?
2. In the case of the (Gateway Site or Greenwich-Mohawk Site) was financing an obstacle?
3. In the case of the (Gateway Site or Greenwich-Mohawk Site) was environmental clean-up an obstacle?
4. In the case of the (Gateway Site or Greenwich-Mohawk Site) was zoning or official plan designation an obstacle?
5. In the case of the (Gateway Site or Greenwich-Mohawk Site) was lack of experience developers an obstacle?
6. In the case of the (Gateway Site or Greenwich-Mohawk Site) was community opposition an obstacle?
7. In the case of the (Gateway Site or Greenwich-Mohawk Site) was political opposition an obstacle?
8. In the case of the (Gateway Site or Greenwich-Mohawk Site) was the regulatory process an obstacle?
9. In the case of the (Gateway Site or Greenwich-Mohawk Site) was stigma an obstacle?
10. Please indicate any other barriers which obstructed the completion of the proposed project and the degree to which they affected the project?
11. What planning tools have been utilized or has there been success with?
12. Have there been any successes utilizing financial tools? (TIEG, BFTIP, Dev. Charge reduction)
13. Do the current brownfield policies address the needs of mid-sized cities?
14. How could the current policies be improved?

Bibliography

aboutREMIEDIATION (AR). (2012). *Remediate, Reclaim, Redevelop, Revitalize*. BLOOM 2012. <http://www.aboutremediation.com/>

Adams, D., De Sousa, C., & Tiesdell, S. (2010) Brownfield Development: A Comparison of North American and British Approaches. *Urban Studies*, 47(1), 75-104, first published on November 3, 2009

Baxter, J. & Eyles, J., (1997). Evaluating qualitative research in social geography: establishing “rigor” in interview analysis. *Transactions of the Institute of British Geographers*, 22 (4), 505–525.

Belko Group. (2002). Phase II Supplement Environmental Site Assessment: 22 Sydenham Street.

Bowman, M., Curpen, R. & Kirby, D. (2002). “Brownfields legislation” in *Municipal World*, 112:1, January 2002, 7-11.

Brant News. (2010, April 14). Snag in brownfield development. Retrieved from: <http://www.brantnews.com/news/snag-in-brownfield-development/>

Brantford Brownfields. (2008). Greenwich-Mohawk Strategic Session. Retrieved from: <http://www.brantford.ca/govt/projects/brownfields/Pages/ReportsStudies.aspx>

Brantford. (2011a). Greenwich- Mohawk Brownfield Project. The Corporation of the City of Brantford. Retrieved May 01, 2012 from: www.brantford.ca/govt/projects/Pages/GreenwichMohawkSite.aspx

Brantford. (2011b). Completed Projects. The Corporation of the City of Brantford. Retrieved From <http://www.brantford.ca/govt/projects/brownfields/Pages/CompletedProjects.aspx>

Brantford. (2011c). Sydenham-Pearl Brownfield Project. The Corporation of the City of Brantford. Retrieved May 01, 2012 from: <http://www.brantford.ca/govt/projects/Pages/Sydenham-Pearl.aspx>

Brantford’s Brownfields Initiative Milestones (n.d.) Dec. 1997 to February, 2003

Canada Mortgage and Housing Corporation. “Brownfield redevelopment for housing: Literature review and analysis”. (2004). In *Regional Analytics Inc.* (Ed.), Ottawa, Ont.: Canada Mortgage and Housing Corporation.

Canadian Institute for Environmental Law and Policy (CIELAP). *Brownfield Redevelopment: What you should know*. <http://cielap.org/brownfields/>

City of Brantford. (2002). *Brownfields Strategic Action Plan*.

City of Brantford. (2005). *Brownfield Sites Community Improvement Plan*.

City of Brantford. (2012). *City of Brantford Development Charges*.

- Coburn, R., Kramer, G & Walker, S. (2010). Ontario MOE Overhauls Key Brownfields Regulation. *Enviromation*, 61: 529-531.
- Darfler, B. (2012). *The Story of Brantford*. Downtown Brantford BIA.
http://downtownbrantford.ca/experience_downtown.php?name=story_brantford
- De Sousa, C. (2000). Brownfield redevelopment versus greenfield development: A private sector perspective on the costs and risks associated with brownfield redevelopment in the greater Toronto area. *Journal of Environmental Planning and Management*, 43(6), 831-853.
- De Sousa, C. (2001). "Contaminated Sites: The Canadian situation in an international context." *Journal of Environmental Management*, Vol. 62, 131-154.
- De Sousa, C. (2003). Turning brownfields into green space in the city of Toronto. *Landscape and Urban Planning*, 62(4), 181-198.
- De Sousa, C. (2006). Urban brownfields redevelopment in Canada: The role of local government. *Canadian Geographer*, 50(3), 392-407.
- De Sousa, C., Wu, C. & Westphal, L. (2009). Assessing the Effect of Publicly Assisted Brownfield Redevelopment on Surrounding Property Values. *Economic Development Quarterly*, 23(2), 95-110
- Deason, J., Sherk, W. & Carroll, G. (2001). "Public Policies and Private Decisions Affecting the Redevelopment of Brownfields: An Analysis of Critical Factors, Relative Weights and Areal Differentials", submitted to the U.S. Environmental Protection Agency, Washington, D.C., The George Washington University.
- Della Mattia, E. (2007, November 14). Ambitious Gateway plans fizzle. *The Sault Star*.
- Della Mattia, E. (2008a, November 17). Another One Bites the Gateway Dust. *The Sault Star*.
- Della Mattia, E. (2008b, May 23). Toronto company wins chance to develop Gateway site. *The Sault Star*.
- Della Mattia, E. (2009, September 17). Councillor calls for gateway cleanup. *The Sault Star*.
- Della Mattia, E. (2010a, January 26). \$15 million funding off table for future Gateway developer. *The Sault Star*.
- Della Mattia, E. (2010b, February 06). Councillor wants more answers on Gateway site. *The Sault Star*.
- Della Mattia, E. (2011a, January 25). Gateway Committee to move forward with plan. *The Sault Star*.
- Della Mattia, E. (2011b, October 10). City to meet with SUNCOR Energy to discuss use of waterfront property. *The Sault Star*.
- DiFrancesco, R. (2006). "Brownfields and planning: A primer for architects and planners." Ottawa: CMHC. Retrieved May 01, 2012 from: http://www.cmhc-schl.gc.ca/en/inpr/bude/himu/coedar/upload/OAA_Planning_Brownfields_EN_-w.pdf

- Downtown Development Initiative. (2012). The City of Sault Ste. Marie [PowerPoint Slides]
- Ellerbusch, F. (2006). Brownfields: Risk, property, and community value. *Local Environment*, 11(5), 559-575.
- Enterprise Brant. (2012). About Enterprise Brant. Retrieved From <http://www.enterprisebrant.com/about>
- Federation of Canadian Municipalities (FCM). (2011). Green Municipal Fund. <http://www.fcm.ca/home/programs/green-municipal-fund/program-resources/brownfields.htm>
- Greenberg, M., Lowrie, K., Solitare, L. & Duncan, L. (2000). Brownfields, toads, and the struggle for neighborhood redevelopment. *Urban Affairs Review*, 35(5), 717-733.
- Greenwich-Mohawk Brownfield Project. (n.d) Recent Timeline of Events. City of Brantford.
- Hayek, M., Arku, G. & Gilliland, J. (2010). Assessing London, Ontario's brownfield redevelopment effort to promote urban intensification. *Local Environment*, 15(4), 389-402.
- Hollander, J., Kirkwood N. & Gold J. L. (2010). "Principles of brownfield regeneration: Cleanup, design, and reuse of derelict land." Washington: Island Press.
- Howland M. (2003). Private initiative and public responsibility for the redevelopment of industrial brownfields: Three Baltimore case studies. *Economic Development Quarterly*, 17 (4), pp. 367-381.
- Jagger Hims Ltd. (2006) Literature Review and Supplemental Delineation: 17 Sydenham Street
- Lomas-Jylha, T. & Coutinho, W. (2011). 10 Key Elements of a Brownfields Redevelopment Strategy for Ontario Municipalities. BLOOM. Retrieved May 01, 2011 From <http://www.aboutremediation.com/Toolbox/Introduction.asp>
- Lomas-Jylha, T. (2005). Brownfield advocate. *HazMat Management*, 17(4), 22-23.
- MacNair, J. (2004). "Valuation of Contaminated Properties: A Canadian Perspective" in *Canadian Appraiser*, Winter 2004, pp. 37-42.
- Marion, M. (2011a, May 10). Councillors vote to end Terrasan deal. *Brantford Expositor*.
- Marion, M. (2011b, June 14). Councillors applaud redevelopment plans for former Harding property. *Brantford Expositor*.
- Marion, M. (2011c, April 07). Sydenham residents call for action on brownfield. *Brantford Expositor*.
- Marion, M. (2011d, January 31). Greenwich-Mohawk brownfield facing more delays. *Brantford Expositor*.
- Marion, M. (2011e, May 25). Councillors cut ties with Terrasan. *Brantford Expositor*.

McCarthy, L. (2002). The brownfield dual land-use policy challenge: Reducing barriers to private redevelopment while connecting reuse to broader community goals. *Land use Policy*, 19(4), 287-296.

McMillan, G. (2012, January 20). Ready, set, go: No red flags found at former Harding Carpets' brownfield property in green hub in Brantford, says MOE. The Green Ticker. Retrieved from: <http://thegreenhub.ca/blog/?p=2700>

Meyer, P. & Lyons, T. (2000). Lessons from private sector brownfield redevelopers. *American Planning Association. Journal of the American Planning Association*, 66(1), 46-57.

Ministry of Municipal Affairs and Housing (MMAH). (2007a). A Practical Guide to Brownfield Redevelopment in Ontario. Retrieved May 01, 2012 from: <http://www.mah.gov.on.ca/AssetFactory.aspx?did=4995>

Ministry of Municipal Affairs and Housing (MMAH). (2007b). Financial Tools for Brownfields Redevelopment. Queen's Printer for Ontario, 2007
<http://www.mah.gov.on.ca/AssetFactory.aspx?did=1488>

Ministry of Municipal Affairs and Housing (MMAH). (2011a). "Brownfields Ontario." Retrieved May 01, 2012 from: <http://www.mah.gov.on.ca/Page220.aspx>

Ministry of Municipal Affairs and Housing (MMAH). (2011b). Municipal Financial Incentives Chart. Retrieved from <http://www.mah.gov.on.ca/AssetFactory.aspx?did=9080>

Ministry of Municipal Affairs and Housing (MMAH). (2011c). Financing a Brownfield Project. Retrieved May 01, 2012 from: <http://www.mah.gov.on.ca/Page223.aspx>

Ministry of Municipal Affairs and Housing (MMAH). (2012). Municipal Financial Incentives for Brownfield Redevelopment: Trends among Ontario Municipalities. Office of the Provincial Brownfields Coordinator. Retrieved May 01, 2012 from: <http://www.mah.gov.on.ca/Page9816.aspx>

Ministry of the Environment (MOE). (2011). Ontario's Brownfield Reforms. Retrieved May 01, 2012 from: <http://www.mah.gov.on.ca/AssetFactory.aspx?did=8924>

Morrell Redevelopment (n.d.) King and Benton Redevelopment. Retrieved May 01, 2012 from: <http://www.kingandbenton.com/morrellredev.php>

New Canadian Brownfield Rule Proposed. (2009). *Pollution Engineering*, 41 (12): 11.

NRTEE (2003). *Cleaning up the Past, Building the Future: A National Brownfield Redevelopment Strategy for Canada*. Ottawa. In National Round Table on the Environment and the Economy (Canada). National Brownfield Redevelopment Strategy Task Force

OCETA. (2008). *State of Canada's Brownfield Development Industry*. Prepared for: The National Round Table on the Environment and the Economy.

Ontario Regulation 153/04 made under the Environmental Protection Act. Record of Site Condition – Part XV.1 of the Act. Retrieved from: http://www.elaws.gov.on.ca/html/regs/english/elaws_regs_040153_e.htm#BK4

Rodrigues, H. (2012a, January 7). Jobless rate falls to 7.4%. *Brantford Expositor*.

Ross, A. (2005). The brownfield vision. *HazMat Management*, 17(4), 17-17

Ross, A. (2009). From brown to gold. *HazMat Management*, 21(1), 18-18.

Ross, I. (2002, June 11). Gateway project takes shape. *Northern Ontario Business*. Retrieved from [http://www.northernontariobusiness.com/Regional-News/sault-ste-marie/Gateway-project-takes-shape-\(4-02\).aspx](http://www.northernontariobusiness.com/Regional-News/sault-ste-marie/Gateway-project-takes-shape-(4-02).aspx)

Ross, I. (2006, May 15). Borealis groundbreaking set for September. *Northern Ontario Business*. Retrieved from <http://www.northernontariobusiness.com/DisplayArticle.aspx?id=13626&LangType=1033>

Ross, I. (2008, September 04). Brownfield developer takes reins. *Northern Ontario Business*. Retrieved from <http://www.northernontariobusiness.com/Industry-News/tourism/Brownfield-developer-takes-the-reins.aspx>

Sault Ste. Marie Economic Development Corporation (SSMEDC). (2011). Development Charges & Tax Rates. Retrieved From <http://www.sault-canada.com/en/investlocateexpand/developmentchargestaxrates.asp>

Siikamäki, J. & Wernstedt, K. (2008). Turning Brownfields into Greenspaces: Examining Incentives and Barriers to Revitalization. *Journal Of Health Politics, Policy & Law*, 33(3), 559-593.

Statistics Canada. (2012^b). *Sault Ste. Marie, Ontario (Code 0739) and Brantford, Ontario (Code 0092)* (table). *Census Profile*. 2011 Census. Statistics Canada Catalogue no. 98-316-XWE. Ottawa. Released February 8, 2012. Retrieved from: <http://www12.statcan.ca/census-recensement/2011/dp-pd/prof/index.cfm?Lang=E>

Statistics Canada. (2012^a). *Sault Ste. Marie, Ontario (Code 3557061) and Brantford, Ontario (Code 3529006)* (table). *Census Profile*. 2011 Census. Statistics Canada Catalogue no. 98-316-XWE. Ottawa. Released February 8, 2012. Retrieved from: <http://www12.statcan.ca/census-recensement/2011/dp-pd/prof/index.cfm?Lang=E>

The Corporation of the City of Sault Ste. Marie. (2008a). Request for Proposals: Sault Ste. Marie Gateway Development. Retrieved From <http://www.city.sault-ste-marie.on.ca/contentadmin/UserFiles/File/CityDepartments/Engineering/Gateway/Request%20for%20Proposal%20-%20Final.pdf>

The Corporation of the City of Sault Ste. Marie. (2008b). Request for Qualifications: Sault Ste. Marie Gateway Development. Retrieved From <http://www.city.sault-ste->

marie.on.ca/contentadmin/UserFiles/File/CityDepartments/Engineering/Gateway/Request%20for%20Qualifications%20-%20Final.pdf

The Corporation of the City of Sault Ste. Marie. (2008c). Development Opportunity. Sault Ste. Marie Economic Development Corporation.

Therrien, R. (1995). "Canadian Contaminated Land Policy" in *Chemistry and Industry*, 13.

Wernstedt, K., Meyer, P., Alberini, A. & Heberle, L. (2006). Incentives for private residential brownfields development in US urban areas. *Journal of Environmental Planning and Management*, 49(1), 101-119.