Future Heritage for Millwood

Sustainable Place-making in Suburban Nova Scotia

by

Christine Ellis Wong

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Azrieli School of Architecture and Urbanism

Carleton University

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Abstract

Though late twentieth-century residential suburbs may be “environmental and economic disasters,”¹ they also hold cultural significance; could these communities be rehabilitated, as Edmund P. Fowler suggests, to “become nodes and neighbourhoods cherished by future generations”²— in short, *future heritage* sites? The Millwood subdivision appears mundane, however, the area’s complex relationship with cars, its long-abused river system, and the disappearing threads of its historic past are among the unique challenges and opportunities the neighbourhood presents.

This thesis overlays approaches from New Urbanism, values-based conservation, and critical regionalism to explore *sustainable place-making* and heritage potential in a *non-heritage site*. A series of multi-scalar interventions are developed, driven by community objectives and value-potential. The methodology underpinning this work might be retailored and applied in other suburban communities across Canada, while the site-specific analysis and design proposals for Millwood uphold the *primacy of place*, even in the face of apparent *placelessness*.

Keywords: Future Heritage, Suburbs, Halifax, Housing diversity, Community design, Sustainable rehabilitation, Place-making

1 Edmund P. Fowler, “Heritage in the ‘Burbs,” *Alternatives Journal*; *Waterloo* 33, no. 2/3 (2007): 24.

2 Fowler, “Heritage in the ‘Burbs,” 25.

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In memory of my late grandfather, Cuthbert Vernon Ellis. Bert was heavily invested in the Sackville community, in Valleyfield Farm, and in his grandchildren's education.

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Preface

This thesis bites off more than it can chew. The work is an initial exploration of a question too large and complex to be encapsulated in an eight-month academic project. Nonetheless, it's a question worth asking, and one I hope to pursue further in my future career. What can be done with the late twentieth century subdivisions which comprise so much of the Canadian built environment? Is there hope that these sites might hold heritage value in the future?

An initial concept of this project was to explore the application of a heritage perspective to an objectively non-heritage site, on the basis that assessment of present and potential values might positively influence an approach to its rehabilitation. I could imagine no place less 'heritage' than the suburban community of Sackville where I grew up. My early premise resonated with the ideas put forward by Edmund P. Fowler in his 2007 article, "Heritage in the 'Burbs"; this thesis, in many ways, has responded to prompts from that short text.

In the early stages of understanding the site, it became clear that a heritage approach alone would not be adequate in assessing or responding to its existing conditions. This realization initiated the pursuit of a multi-scalar, hybrid approach; indeed, the development of such an approach has comprised much of the work of this thesis. The process seeks to integrate a diverse range of objectives, which are found to be inextricably interrelated at the scale of a neighbourhood. Still, this is an area which certainly might be expanded to include a wider range of considerations in another context of work.

Major challenges in the development of this thesis have been prioritization and curation. While there are many layers of research, design, and inquiry which might have been hugely beneficial to this process – the scope has been curtailed by the limitations of the M. Arch thesis format. If nothing else, I hope that this work has posed 'the suburban problem' in a new light, and made a case for the value-potential of underestimated existing communities.

Introduction

“The suburbs are exactly what we asked for. The suburbs are exactly what we’ve got.”

- *Cities in the Suburbs* (1962),
Humphrey Carver

Prelude

When she was a child growing up in rural Nova Scotia, one of my mum's favourite books was The Little House, by Virginia Lee Burton. The main character is a pretty Little House out in the country, but as time progresses, the city's sprawl extends and surrounds the farmhouse. Eventually, the great-great-granddaughter of the man who built the Little House moves it to a new home – out in the countryside again. I think the story resonated with my mother even more as, over the past forty years, the farm where I was raised has been steadily encroached upon by suburban development.

Illustration 1: Scenes of sprawl from Burton's *The Little House*

I grew up on Valleyfield Farm, in Middle Sackville, Nova Scotia, on farmland which my great-great-great grandfather, Nathan Ellis, acquired over two hundred years ago. Historically, Sackville was a logging village, with forested areas and two rivers which ran lumber mills. The town only had about a thousand residents in the 1960s, when “the Sackville Valley was designated as the site of a provincially initiated ‘satellite’ community to serve the housing needs of the metropolitan Halifax area.”³ Since the mid-1980s, the Millwood subdivision has been incrementally developed around Valleyfield Farm. Agriculture has been replaced by used car dealerships, and the reputation of Sackville is at worst, ‘rough,’ and at best, ‘boring’.

³ Robert Paton Harvey, *Historic Sackville, Images of Our Past* (Halifax, NS: Nimbus Publishing, 2002), vii.

Illustration 2: Burton's *Little House* being relocated to the countryside

I grew up on the edge of – but not within – an auto-oriented, vinyl-clad subdivision. Mine has been a very specific and unique relationship to suburbs and this perspective has, in part, informed the direction I have chosen to take with my thesis. In reflecting on the Little House, and the continued growth of Middle Sackville and the Millwood area – I find myself asking whether there might be a middle option? Perhaps something in between total urbanization, and continued relocation (or expansion) to the periphery of urban areas?

Premise

“A favoured solution is to build all future development within the current built up area. Then, organically and incrementally, residential and industrial subdivisions will become the heritage districts of the future.”⁴

Canada is a predominantly suburban nation.⁵ In *Creeping Conformity*, Richard Harris notes that “as a society, we have made our suburbs. They express our values... and offer symbols and cues to our cultural experiences.”⁶ While cul-de-sacs of tract housing may not match our common understanding of ‘heritage’ – ultimately, this is the built environment that we have, and it is the legacy that we will leave to future generations. Edmund P. Fowler writes in “Heritage in the ‘Burbs”, that “suburbs are of immense cultural significance, but they are environmental and economic disasters.”⁷ Development patterns of Canada’s late twentieth-century residential subdivisions stand in stark contrast to communities which, today, might be considered sustainable. Nowhere is this more the case than in single-use residential zoned neighbourhoods which dictate “wholesale reliance on the car.”⁸ The proliferation of sprawling, residential subdivisions has generated profound environmental, social, and economic consequences.

Since sustainable patterns of living require less resource-intensive community forms – how, then, can we address the issues posed by existing late twentieth century suburbs? Residential subdivisions comprise too large

“while arguments for recycling the larger existing building stock of the twentieth century can be developed in terms of environmental sustainability... there is also a need to understand how the qualitative values associated with specific places can be sustained.”⁹

a portion of our built environment to consider wholesale demolition, yet, their environmental impact continues to rise the longer these existing suburbs are in use. Is it possible, instead, to rehabilitate existing suburban sites, as Fowler describes, to “become nodes and neighbourhoods

4 Fowler, “Heritage in the ‘Burbs,” 4.

5 David L. A. Gordon, “Canadian Suburbs Research,” Canadian Suburbs, accessed December 10, 2019, <http://canadiansuburbs.ca/>.

6 Richard Harris, *Creeping Conformity: How Canada Became Suburban, 1900-1960*, Themes in Canadian History 7 (Toronto ; Buffalo: University of Toronto Press, 2004), 18.

7 Fowler, “Heritage in the ‘Burbs,” 3.

8 Leigh Gallagher, *The End of the Suburbs: Where the American Dream Is Moving*, 2014, 90.

9 Susan Ross, “How Green Was Canadian Modernism? How Sustainable Will It Be,” *Docomomo International Journal*, no. 38 (2008): 67.

cherished by future generations”¹⁰— in short, *future heritage sites*? The embodied resources and the social investment already embedded in late twentieth century subdivisions position these existing neighbourhoods as a valuable resource toward the creation of more *sustainable communities*.

The Question of Future Heritage

While heritage is defined, in the literal sense, as “that which has been or may be inherited,”¹² its connotations in contemporary culture conjure images of historic structures, museums, and monuments. A key move in

“Place unites heritage and sustainability. One way of seeing how this works is to look at the suburbs as our heritage buildings of the future.”¹¹

the field of heritage conservation has been a widening understanding of *heritage values*. In considering what *future heritage* might be, it comes down to questions of what **do** we value and what **will** we value? In truth, what will be valued in the future is unforeseeable,¹³ but careful consideration of heritage values of today yields insight toward attributes that may prove to be of value in the future. Heritage assets are sometimes valued for possessing aesthetic or architectural merit.¹⁴ This type of evaluation may be highly qualitative, and is always subject to the *Kunstwollen* of the viewer, which might be understood as “our immediate cultural belief system, which is itself constantly shifting.”¹⁵ In other instances, heritage may be that which tells a story – sites that bear witness to past events, to historical themes of development in a place, or which represent ways of life, both past and present.¹⁶

The concept of future heritage in this thesis largely builds on the ideas put forward by “Heritage in the ‘Burbs”; it also relates to *prospective preservation* as proposed by Rem Koolhaas. In *Preservation is Overtaking Us*, Koolhaas notes that the time between an architecture’s construction, and the era when it might be appreciated for its heritage value has been continually compressing – to the point where this interlude may no longer exist. As the perceived gap between that which is heritage and

10 Fowler, “Heritage in the ‘Burbs,” 25.

11 Fowler, 2.

12 “Heritage,” Oxford English Dictionary, accessed December 12, 2019, <https://www-oed-com.proxy.library.carleton.ca/view/Entry/86230?rskey=H38MGV&result=1#eid>.

13 David Lowenthal, “Authenticities Past and Present,” *CRM: The Journal of Heritage Stewardship*, no. 5 (2008): 6–17.

14 Alois Riegl, “The Modern Cult of Monuments: Its Character and Its Origins,” in *Oppositions Reader*, ed. K. Michael Hays (NJ: Princeton University Press, 1998), 69–83; Ioannis Poullos, *The Past in the Present: A Living Heritage Approach - Meteora, Greece* (London: Ubiquity Press, 2014).

15 ERA Architects, “Alois Riegl and the Modern Cult of the Monument,” January 9, 2011, <http://www.eraarch.ca/2011/alois-riegl-and-the-modern-cult-of-the-monument/>; Riegl, “The Modern Cult of Monuments: Its Character and Its Origins.”

16 Ioannis Poullos, “Moving Beyond a Values-Based Approach to Heritage Conservation,” *Conservation and Management of Archaeological Sites* 12, no. 2 (May 1, 2010): 170–85. \u00a0Conservation and Management of Archaeological Sites} 12, no. 2 (May 1, 2010

that which is contemporary narrows, Koolhaas observes that “we built so much mediocrity that it is literally threatening our lives. Therefore, we will have to decide in advance what we are going to build for posterity sooner or later.”¹⁷ To build in the present with greater consideration for how the site might be used in the future is central to the premise of prospective preservation. *Long life/loose fit*, as termed by Stewart Brand, is not a new concept,¹⁸ but one that might be pushed forward in the pursuit of future heritage, whereby interventions to the existing built environment might be designed with the thought in mind that they, in turn, may experience intervention, adaptation, or heritage recognition in the future.

A case study of Millwood, Middle Sackville (a subdivision in the suburbs of Halifax) was selected as a test site to develop a method of approach which might also be applied to other suburban communities across Canada. While the resultant interventions are site-specific, the process of

“We do not know what will be appreciated in the future, so how can we then erase in the present?”¹⁹

reaching the designs, the and hybrid methodology developed for this thesis might be retailored to suit other sites. One intent of this thesis was to apply a heritage perspective to a *non-heritage site*. By being relatively unremarkable in its architecture, it was assumed that the site might stand not only for itself, but also for many others, as its mass-produced cul-de-sacs resemble those in many other towns and cities. Rehabilitation of this subdivision may offer community design solutions which make better use of the region’s existing neighbourhoods, rather than extending its urban peripheries even farther.

Synopsis

A key challenge in addressing existing suburbs is the scale and level of complexity inherent to the problems they pose. The interrelated nature of these problems also means that it is inadequate and arguably inappropriate to separate them into silos; the more holistically issues can be analyzed, the more fully each might be addressed. To create a theoretical framework capable of addressing future heritage in existing suburbs, a literary review of approaches from planning and urban design, heritage conservation, and architectural design was conducted. Drawing on the strengths of each

17 Rem Koolhaas and Jorge Otero-Pailos, *Preservation Is Overtaking Us* (Columbia Books on Architecture and the City, 2014), <https://www.arch.columbia.edu/books/reader/6-preservation-is-overtaking-us>.

18 Stewart Brand, *How Buildings Learn: What Happens after They're Built* (New York, NY: Penguin Books, 1995), 56.

19 Charles C. Moorhouse, “Rem Koolhaas and Prospective Preservation,” FOLD, accessed February 26, 2020, <https://thisisthefold.org/index.php/2017/05/15/rem-koolhaas-and-prospective-preservation/>.

New Urbanism, values-based conservation, and critical regionalism, a hybrid methodology for analyzing and responding to late twentieth century residential subdivisions was developed. This thesis puts forward a multi-scalar, multi-phased approach, supporting the design of localized interventions driven by community objectives, and responding to potential heritage values. This document is laid out in three main sections, which play off of the Understanding, Planning, and Intervening phases of the *Conservation Decision-making Process*.²⁰

Adapting this process to compose the thesis supports the exploration of a heritage approach being applied to a non-heritage site and allows the thesis content to be unfolded from the more general to the highly specific. The three sections are **Part 1: Understanding the Context** which identifies preliminary

background information; **Part 2: Planning an Approach** which outlines the creation and application of a method of approach for the study site; and, **Part 3: Intervening through Design** which details site analysis and intervention proposals.

“Each region... has its own history and problems and must find its own strategy for facing its challenges. Some approaches may lead to good communities; others will not. Only history will define which is which.”²¹

Part 1: Understanding the Context provides background information to the problem of existing suburbs, identifies the study site, and gathers ideas from existing literature to support an intervention approach for existing suburbs. The first chapter, “The Suburbs,” identifies issues perpetuated by single-use zoned, auto-oriented postwar suburbs in the Canadian context. The second chapter introduces a specific late twentieth century subdivision, and outlines aspects of Middle Sackville’s past which lead to the current conditions of the Millwood subdivision. The third chapter reviews different areas of literature and assesses how existing theories might support the thesis research: New Urbanism provides an approach to creating more complete and sustainable communities; values-based conservation supports analysis and intervention in existing built environments; and, critical regionalism yields a design ideology which prioritizes *sense of place* and relationship to the local context.

20 Parks Canada, *Standards and Guidelines for the Conservation of Historic Places in Canada: A Federal, Provincial and Territorial Collaboration.*, Second Edition (Ottawa: Parks Canada, 2010), 3, <https://www.historicplaces.ca/media/18072/81468-parks-s+g-eng-web2.pdf>.

21 Jill Grant, *Planning the Good Community: New Urbanism in Theory and Practice* (London, UNITED KINGDOM: Routledge, 2005), 228, <http://ebookcentral.proquest.com/lib/oculcarleton-ebooks/detail.action?docID=254370>.

Part 2: Planning an Approach Building on principles identified in existing literature, a framework for pursuing the thesis research is established; investigation of the site is conducted through a combination of literary research, on-site observation, and typological analysis of the existing built fabric. The next stages of planning interweave site-specific knowledge with general principles from literature review. Chapter 5 takes principles stemming from New Urbanism to support the development of community objectives. Chapter 6 determines thematic areas of value-potential and identifies a range of attributes which might represent the history and life of the site. Chapter 7 outlines an approach to design which employs both *infrastructural* and *incremental interventions* to fulfil community objectives, while utilizing a series of design guidelines to respect and enhance the neighbourhood's value-potential.

Part 3: Intervening through Design This section combines elements of site analysis with design proposals for the future, following the New Urbanist scales of the Region; the Neighbourhood; and the Block, the Street, and the Building. Chapter 8 looks at the entire study area, and its relations to Sackville and to the Halifax region. Interventions propose considerations for future use zoning in the study area. Chapter 9 identifies a design sub-site and presents ideas for phased infrastructural interventions and schematic design of public spaces within Millwood. Chapter 10 focuses on discrete incremental interventions; rehabilitations facilitating housing diversity, gentle density, and commercial functions are proposed for specific instances of split-entry suburban homes.

Designing rehabilitations for sustainable communities is a complex, multi-scalar process – and physical change must be paired with changed social behaviour. As addressed in the *Charter of the New Urbanism*, “physical solutions by themselves will not solve social and economic problems, but neither can economic vitality, community stability, and environmental health be sustained without a coherent and supportive physical framework.”²² Designing for a sustainable future can include many things, and while certainly not comprehensive, the design proposals in this thesis put forward a

22 Congress for the New Urbanism, “The Charter of New Urbanism,” 1996, <https://www.cnu.org/who-we-are/charter-new-urbanism>.

Illustration 3: Millwood Drive at Rafting Drive, Sept 2019

possible future for an existing suburban neighbourhood – one which might provide a framework for alternate development patterns as the community continues to grow. Planning and design complexities are amplified when combined with the endeavour to foster heritage sites of the future. However, the creation of well-designed built environments – which are rooted their local context and attuned to community needs — strongly supports the long-term sustainability of a site. As an entity, suburbs comprise a major portion of our twentieth (and twenty-first) century built environment; they speak to our social, economic, and environmental histories. Beyond this representative sense of historic value, through the careful analysis of existing suburbs, it comes to bear that even the most generic subdivisions might hold some heritage value. This thesis explores how suburban neighbourhoods might be assessed for value-potential, and how existing subdivisions might be used to create sustainable places with a story to tell the future.

PART I:

Understanding the Context

Chapter 1:

The Suburbs

“Little boxes on the hillside/ Little boxes all the same... And they’re all made out of ticky tacky/ And they all look just the same.”

- ‘Little Boxes’ (1962),
Malvina Reynolds

Introduction to Suburbs in Canada

Though they may be both prolific and problematic – to the majority of Canadians, the suburbs are home. Indeed, based on predominant patterns of development, the suburbs are, as Humphrey Carver notes, *exactly what we've got*, but how well suited are they to serve present and future needs of Canadians? While suburbs certainly existed in Canada before World War II, the postwar period marked a drastic shift in the design and propagation of subdivisions. The specific conditions of North America following the Second World War (including increased population, and particularly the 'boom' of young families²³) sparked federal policies which determined future regulations of mortgage financing and home building across the continent. Richard Harris remarks that:

"it is difficult not to see the evolution of Canadian suburbs as the inevitable expression of historical forces... People needed homes and wanted space; new transportation technologies brought cheaper suburban land within the reach of many; rising incomes made it feasible for governments to mandate (and enforce) building standards for health and safety. Land subdividers, developers, builders and lenders were happy to oblige."²⁴

Suburbanization is sometimes considered a uniquely American condition– but Canada is also an very suburban nation. While the manifestation of suburbs in Canada and the United States have been formed by different federal policies and provincial/state/municipal governance structures²⁵ – their development patterns have followed similar trajectories in the second half of the twentieth century. This is notably the case from the 1950s onward when both countries "came to think of the suburbs as a fundamental part of their national experience."²⁶

"If two-thirds of Canada's population currently lives in suburban neighborhoods, then plans for infrastructure programs, environmental sustainability, public health, land use, and community design must take this phenomenon into account."²⁷

23 Kenneth T. Jackson, *Crabgrass Frontier: The Suburbanization of the United States*, 26. print (New York, NY: Oxford Univ. Press, 2006), 232.

24 Harris, *Creeping Conformity*, 168.

25 Harris, *Creeping Conformity*, 128.

26 Harris, 11.

27 David Gordon et al., "The Future of the Suburbs: Policy Challenges and Opportunities in Canada," The School of Public Policy Publications 11 (August 30, 2018): 3, <https://doi.org/10.11575/sppp.v11i0.53000>.

The Canadian Suburbs study led by David L. A. Gordon from 2006-2016 sought to quantify just how suburban Canada is. Census data draws a distinction only between 'urban' and 'rural', however, many different densities and patterns of living are encapsulated in the category of urban. One intention of the study was to better understand how Canadians live so that planning and policy decisions might more accurately reflect real-life conditions.²⁸ The study found that more than two-thirds of Canadians live in suburbs – but within that grouping, not all suburbs are alike. Within their research model, all neighbourhoods within CMAs can be categorized into one of four types: *Active Core*, *Transit Suburb*, *Auto Suburb*, and *Exurban*.²⁹ Yet, even within the same suburb type not all neighbourhoods will have matching sets of needs, challenges, or positive attributes.

Problems in Late Twentieth Century Suburbs

Many critiques of late twentieth century suburbs stem from the postwar morphological shifts in the design of residential neighbourhoods. Earlier forms of residential development at the urban periphery were fundamentally different from later suburban development because of society's changed relationship to cars. This shift is visually perceptible in the built form, but the change has also imposed unintended social, environmental, and economic impacts.³⁰ In *Crabgrass Frontier*, Kenneth T. Jackson notes five key characteristics of postwar suburban communities, namely: peripheral location, relatively low density, architectural similarity (with which Jackson also notes uniformity of program types), easy availability, and economic and racial homogeneity.³¹ The presence of these traits distinguishes late twentieth century subdivisions from earlier patterns of residential development, and correlates key issues posed by the suburbs.

The single-use zoned, low-density residential subdivision type, today so prevalent across Canada, was not possible before the era of automobile ubiquity. Rates of automobile transportation climbed exponentially in the postwar era.³² Car usage influenced lot size and population distribution, allowing a city's periphery to extend ever farther from its core, resulting in largescale *urban sprawl*. Harris describes that "in its geographical extent, then, the post-war suburban boom was wholly

28 David Gordon et al., "The Future of the Suburbs: Policy Challenges and Opportunities in Canada," The School of Public Policy Publications 11 (August 30, 2018): 3, <https://doi.org/10.11575/sppp.v11i0.53000>.

29 Neighbourhoods are demarcated along census divisions, to best reflect census data.

30 Leigh Gallagher, *The End of the Suburbs: Where the American Dream Is Moving*, 2014, 82.

31 Jackson, *Crabgrass Frontier*, 238–41.

32 Harris, *Creeping Conformity*, 129–30.

unprecedented.”³³ Some of the issues created by car-dependency pertain to quality of life, like “the ‘commuting paradox’ – people consistently underestimate the wear and tear of a commute and overestimate the benefits of its rewards.”³⁴

Rapid consumption of previously undeveloped land and climbing rates of vehicle miles traveled make many postwar suburbs, as Fowler noted, environmental disasters.³⁵

Another impact of the auto-oriented shift is the move toward the single-use residential zoning of subdivisions. In *The End of the Suburbs*, Leigh Gallagher writes that, “even now, single-use zoning is the easiest way to distinguish modern suburbs from their older counterparts... postwar suburbs typically separate everything.”³⁷ This configuration “forces people to live their lives in ‘very large triangles,’ with one point being where they sleep, one where they shop, and one where they work – with a good chunk of their time spent shuttling among these three places.”³⁸ Single-use zoning solidifies the need for cars, and the fragmentation of the functions of everyday life can be linked to experiences of social isolation.³⁹

Though often cited among the main critiques of late twentieth century suburbs, their architectural monotony may be among the more harmless of their characteristics. Neighbourhood uniformity in and of itself is not necessarily a negative attribute. In *Retrofitting Suburbia*, Ellen Dunham-Jones and June Williamson are quick to point out that the underwhelming architectural experience of late twentieth-century suburbs might be less attributable to their sameness, and more so to their low-quality design. The authors note that while earlier subdivisions may have been speculatively and repetitively built, “in contrast to contemporary suburban construction, these earlier examples tended to have much better workmanship, materials, and detailing.”⁴⁰ The more sinister effect of

“Suburbs are not only expressive but influential ...they have shaped us, though not necessarily in the ways that we have intended, or even desired... because suburbs can affect the way we live that we need to take seriously their growth and ubiquity.”³⁶

33 Harris, 130.

34 Gallagher, *The End of the Suburbs*, 98.

35 Edmund P. Fowler, “Heritage in the ‘Burbs,” *Alternatives Journal; Waterloo* 33, no. 2/3 (2007): 3.

36 Harris, *Creeping Conformity*, 18.

37 Gallagher, *The End of the Suburbs*, 40.

38 Gallagher, 42.

39 Harris, *Creeping Conformity*, 170.

40 Ellen Dunham-Jones and June Williamson, *Retrofitting Suburbia: Urban Design Solutions for Redesigning Suburbs* (Hoboken, N.J.: John Wiley & Sons, 2009), 10.

what Jackson termed as 'architectural similarity' is the largescale erosion of regional vernacular styles and approaches to construction.⁴¹ Diversity and regionalism, as Harris notes, have often been devastatingly 'ironed out' by postwar development.⁴²

Indeed, more sinister still is the racial and economic homogeneity engendered in patterns of suburban development. Harris notes that "the growth of the suburbs made it possible for people to segregate themselves on an ever-increasing scale."⁴³ The biases of housing and mortgage policies in Canada have had tremendous racial implications. Harris notes that "the processes of exclusion that are so powerful in the United States have also played a role in Canadian suburbs. In effect, though rarely by design, they have been strengthened by the norm of owner-occupation."⁴⁴ Even today, subdivisions comprised of similarly-priced, similarly-sized dwellings, mean that new neighbourhoods are open only to households with adequate purchasing power to buy into them. A lack of diversity in the form of the built environment can also limit the socio-economic diversity of communities.

The Future of Suburbs

Gordon notes that, "even if urban development trends were to become significantly more intense, the current suburban neighborhoods will comprise the bulk of the nation's housing stock well into the 21st century. Thus, it appears that Canada is destined to remain a suburban nation in the decades ahead."⁴⁶

"How will all present and future suburbanites be housed in a manner that meets their diverse needs? Can established suburban residential districts... be retrofitted to accommodate an influx of diverse new residents while responding to the changing needs of current ones?"⁴⁵

The development market is, to a certain extent, driven by what homeowners are choosing to buy⁴⁷ – but consumers can't choose options that have not been made available to them. As Gordon points out "the single-family-house market is dangerously oversaturated, and yet continues to be the sole

41 Jackson, *Crabgrass Frontier*, 240.

42 Harris, *Creeping Conformity*.

43 Harris, 76.

44 Harris, 170.

45 Dunham-Jones and Williamson, *Retrofitting Suburbia*, 19.

46 Gordon et al., "The Future of the Suburbs," 4.

47 Jill Grant, "Theory and Practice in Planning the Suburbs: Challenges to Implementing New Urbanism, Smart Growth, and Sustainability Principles," *Planning Theory & Practice* 10, no. 1 (March 1, 2009): 21, <https://doi.org/10.1080/14649350802661683>.

housing option allowed by zoning regulations in much of suburbia.”⁴⁸ Meanwhile, in America, Leigh Gallagher is heralding an imminent end to the suburbs – in a large part because of *Millennials*. Gallagher writes that:

“studies show that when millennials do leave their parents’ homes, they don’t want anything to do with the kinds of suburbs they grew up in. Seventy-seven percent of them prefer to live in an urban area, and whether that means an inner city or an urbanized small town or suburb, one thing it doesn’t mean is the kinds of homes that will be left for them in conventional suburbia.”⁴⁹

Ironically, the subdivisions where *Baby Boomers* have raised their Millennial families may no longer be ideal homes for either demographic. More than half of all Canadians are either Baby Boomers, or are the children of Baby Boomers.⁵⁰ Today, Baby Boomers are between 55-75, and *aging in place* is not a feasible option in many suburbs. Some of the considerations for ability to age in place are home, transportation, finances, and community.⁵¹ Many existing suburban home types – like split-entry, split-level, and multi-storey dwellings⁵² – are not well suited to the mobility challenges often associated with aging and, depending on the model of home, may have varying levels of adaptability. Moreover, retaining independence may be close to impossible in auto-oriented, single-use zoned subdivisions once an individual no longer drives. Before long, limited access to amenities and necessary services – along with potential social isolation – will become real issues for Baby Boomers intending to stay in the suburban communities where they presently live.

Beyond the compatibility of Canadian homes to Canadian needs – the future of suburbs also calls in to question the long-term environmental viability of these patterns of living. As early as the 1950s, urban researchers identified that suburban patterns of development proliferating into sprawl were unsustainable, and yet low-density, single-use suburbia continues to be our main mode of development several decades later.⁵³ Canadians need diverse and sustainable housing options – but what we have instead is acre after acre filled with iterations of the same, outdated model.

48 Dunham-Jones and Williamson, *Retrofitting Suburbia*, 18.

49 Gallagher, *The End of the Suburbs*, 19–20.

50 Statistics Canada, “Generations in Canada,” accessed February 21, 2020, https://www12.statcan.gc.ca/census-recensement/2011/as-sa/98-311-x/98-311-x2011003_2-eng.cfm.

51 Employment and Social Development Canada, “Thinking about Your Future? Plan Now to Age in Place – A Checklist,” research, aem, October 3, 2016, <https://www.canada.ca/en/employment-social-development/corporate/seniors/forum/aging-checklist.html>.

52 See Appendix B for typological study of housing in Millwood.

53 *Community Growth: Crisis and Challenge*, 1959, <http://archive.org/details/Communit1959>.

Chapter 2: The Study Site

“In some ways Sackville, throughout its history has been a community on a road to somewhere else.”

- *Historic Sackville* (2002),
Robert Paton Harvey

Introduction

Millwood is a residential subdivision in the town of Middle Sackville, Nova Scotia, a suburban community at the periphery of Halifax. The town generally called “Sackville” refers to the three communities – Lower, Middle, and Upper Sackville – none of which should be confused with Sackville, New Brunswick.⁵⁴ Lower Sackville has a stronger commercial presence, and Upper Sackville has a more rural population density – leaving the transition between these two areas – Middle Sackville – in the middle in more ways than one. The area has a long history with transportation, and has been known as a point of connection for communities across Nova Scotia.

I selected this site largely because of my personal connection, and family history in Middle Sackville. Despite having grown up in the study site, through the research conducted for this thesis I've learned much about aspects of its past and present context which I'd previously been unaware of. One important example is the area's relationship to patterns of life pre-British colonization, which are underrepresented in the community. While this site was not known to be home to Acadian or Mi'kmaw populations – the route through it related to seasonal patterns of the livelihoods of both groups. Natural ecologies of the site – now fragmented between tracts of suburban housing - are more significant and viable than their understated role in the community might suggest.

Illustration 4: Sackville and Study Area in the Halifax Region

Lower, Middle and Upper Sackville are shown relative to the urban core in Halifax and Dartmouth. Neighbouring communities are also labelled.

⁵⁴ Those who have not spent significant time in Nova Scotia are more likely to know the home of Mount Allison University in NB than Sackville NS.

The Great Road

The earliest extant structures in Middle Sackville are all situated along the Old Sackville Road. Throughout recorded history this route has had other names – Windsor Road, Acadian Path, Pisquid Road – and for centuries has served to connect the Halifax Harbour with the Minas Basin. All of Nova Scotia is part of Mi'kma'ki – the unceded territory of the Mi'kmaw people.⁵⁵ The Sackville River Valley was part of a portage trail first used by the Mi'kmaq for seasonal fishing. In *Historic Rivers of Nova Scotia*, Joan Dawson writes that “the mouth of the Sackville River was the southern end of the Mi'kmaq route across the province, by way of the St. Croix River between the Minas Basin and the Bedford Basin.”⁵⁶ The Mi'kmaq would spend summers along the Bedford Basin for seasonal fishing of shellfish, and petroglyphs in the Bedford community “bear testimony to its importance as an aboriginal gathering place in the time past.”⁵⁷

Illustration 5: Sackville River Valley early route across Nova Scotia

Travel through the Sackville River Valley predates European colonization of Nova Scotia. The river system was a portage route used by the Mi'kmaq between Chebucto (today Halifax) and Pisquid (now Windsor).

While there was no known Acadian settlement in the Sackville area, the route between Chebucto (now Halifax) and Pisquid (now Windsor) was also traversed by habitants, and used in the first half of the eighteenth-century by the Acadians “to drive cattle.”⁵⁸

55 Kwilmu'kw Maw-klusuaqn Mi'kmaq Rights Initiative, “Treaties,” Mi'kmaq Rights Initiative, accessed December 10, 2019, <https://mikmaqrights.com/negotiations/treaties/>.

56 Joan Dawson, *Nova Scotia's Historic Rivers: The Waterways That Shaped the Province* (Halifax, N.S: Nimbus pub, 2012), 11.

57 Dawson, 11.

58 Dawson, 12.

The British established a settlement at Halifax in 1749, and by September of the same year, Fort Sackville was constructed at the mouth of the Sackville River.⁵⁹ The military outpost was implemented strategically at the ‘back door’ of Halifax to defend the settlement from the French and the Mi’kmaq.⁶⁰ The same year, the road from Halifax to Windsor was formally established by the English, constructed in large part using Acadian labour.⁶¹ Through violent and hostile policies, deliberate transmission of disease⁶², and the Great Upheaval of 1755⁶³ - Acadian and Mi’kmaq people were pushed out and

Illustration 6: 1755 map depicts Sackville River valley route and Acadian homes pre-expulsion

Great Road emphasized by author. Early cartographic record of the Old Sackville Road, and a tragic piece of documentation of Acadian deportation in Nova Scotia.

forcibly removed from much of Nova Scotia. Possibly the earliest mapping of the Old Sackville Road is a 1755 survey which shows the route to Acadian homes pre-expulsion (Illustration 6).

In 1817, a survey was completed by John Elliott Woolford which documented Nova Scotia's two *great roads*.⁶⁴ Both routes began in Halifax, with one connecting to Truro and the other to Windsor; the point where these two roadways diverge is located in present-day Lower Sackville. The Windsor Road formed a grant line for the new settlement, along which distributed ‘farm lots’ which

59 Robert Paton Harvey, *Historic Sackville*, Images of Our Past (Halifax, NS: Nimbus Publishing, 2002), vi.

60 Harvey, vi.

61 Dawson, *Nova Scotia's Historic Rivers*, 92.

62 Nova Scotia archives have written records of Indigenous families who were administered blankets from Fort Sackville. Nova Scotia Archives, “Report of distribution of blankets to Mi’kmaq at Sackville where the chief James Paul resides, including Morris’ family at North West Arm,” 1857. Retrieval no.: Commissioner of Public Records — Indians series Nova Scotia Archives RG 1 Vol. 431 No. 93. <https://novascotia.ca/archives/Mikmaq/archives.asp?ID=327&Page=201607198&Language=>

63 James H. Marsh, “Acadian Expulsion (the Great Upheaval),” *The Canadian Encyclopedia*, July 15, 2015, <https://thecanadianencyclopedia.ca/en/article/the-deportation-of-the-acadians-feature>.

64 Nova Scotia Archives, “Nova Scotia Archives - Woolford's Surveys: The Roads from Halifax to Windsor and Truro, 1817-18,” October 8, 2009, <https://novascotia.ca/archives/woolford/>.

Illustration 7: Mile 13 to Mile 17 of the Woolford Survey (1817)

Segment of the Great Road from Halifax to Windsor. Survey includes the Sackville River, churches, and farmsteads in the Sackville community. Middle Sackville, and Ellis Farm, is located around the middle portion of this map

“would shape the growth and development of the community of Sackville for over two hundred years.”⁶⁵ Today, this hilly road is an architectural muddle including a couple of 19th century churches, handfuls of 1970s bungalows, and a smattering of pre-subdivision homes. Present-day visitors would be unaware that route has borne witness to some of the darkest elements of Nova Scotia’s history.

Sackville in the Twentieth Century

The Sackville River Valley provided fertile land for two centuries of farming, while the waterways facilitated a logging industry. Sackville remained a rural village until the mid-twentieth century, having a population of “about a thousand until the late 1960s.”⁶⁶ In *Historic Sackville*, Robert Paton Harvey notes that in 1968 “the Sackville Valley was designated as the site of a provincially initiated ‘satellite’ community to serve the housing needs of the metropolitan Halifax area,” commenting that, “once again Sackville’s strategic location would shape its history.”⁶⁷ With the completion of the new highway, Sackville found itself less than a half hour car commute to the downtowns of both Halifax and Dartmouth. In

⁶⁵ Harvey, *Historic Sackville*, vi.

⁶⁶ Harvey, vii.

⁶⁷ Harvey, vii.

pre-1749
Before British settlement in Sackville

c. 1755
Grant lines for Settler farmsteads

c. 1820s
The new road to Windsor

c. 1958
Rural village, pre-satellite town

c. 1978
Pre-Millwood, early subdivision

1988
Early Millwood, Sackville Estates

1998
Mid-Millwood

2008
Built-out Millwood

2018
Twin Brooks, and the Margeson Exit

Illustration 8: Road development over time

Beginning with the Great Road, street development mapped over time. Valleyfield farm extents shown in green

1972, around the time the highway's construction, a huge parcel of farmland was surveyed for Clayton Developments.⁶⁸ About a decade later, this parcel would see the first construction of Millwood.

“Suburban growth in the region has generally been ‘despite the river’ rather than ‘with the river’.”⁶⁹

Though the settlement of Sackville exists where it does because of the Sackville and Little Sackville Rivers, these have been heavily abused by late twentieth century development. The Little Sackville River is “the only river in NS that has legislated designated flood plain for its entire length.”⁷⁰ Dwellings exist within the floodplain area of the Little Sackville River, and all of Millwood is within its watershed. Development in Millwood has also disrupted wetland areas, which today are separated and scattered between blocks of tract housing. Natural ecologies of Middle Sackville have been heavily impacted, but numerous areas with restoration potential have been identified.⁷¹ In Millwood, experience with the Little Sackville River is intermittent and limited, belying its pervasive presence. A 2011 proposal for a new Greenway trail following the river describes that, “much of the Little Sackville River (LSR) is hidden from view, lacking public access, or severely encroached upon and effectively canalized. As the population in the area continues to increase due to new real estate development, the pressure on the LSR continues to increase, as well as the demand

Illustration 9: Scenes of the Little Sackville River

Above: The Sackville Estates mobile home neighbourhood. Lower left: LSR behind Millwood schools accessed only by desire lines. Lower Right: LSR culverted at Millwood Drive

68 Culverwell Holdings Limited, “Boundary & Topographic Map Showing the Lindwood Farm Land Holdings at Sackville, Halifax Co., N.S. - Archives Catalogue,” Dalhousie University Archives, March 17, 2017, <https://findingaids.library.dal.ca/site-plan-showing-lands-surveyed-for-clayton-developments-ltd-middle-sackville>.

69 EDM and Gordon Ratcliffe Landscape Architects, “Sackville Greenway Multi-Year Development Plan,” 2011, 8, <http://sackvillerivers.ns.ca/wp-content/uploads/2012/04/2011-Nov-Sackville-Greenway-Plan1.pdf> Sackville-Greenway-Plan1.pdf.

70 EDM and Gordon Ratcliffe Landscape Architects, 10.

71 Nova Scotia Environment, “Restoration Opportunities | Wetlands | Nova Scotia Environment,” April 1, 2009, <https://novascotia.ca/nse/wetland/restoration.asp>.

for recreational opportunities.”⁷² Subdivision has continued in fits and starts as pieces of former farmland have been sold off, but there have been no long lulls in development for Middle Sackville since Millwood began in the mid-1980s.⁷³ Indeed, the past decade has witnessed entire new neighbourhoods sprouting up and spreading out near Margeson Road. Additionally, new developments at the farther side of Middle Sackville, and high-priced exurban-type development in adjacent communities have been extending the urban periphery at dizzying rates. Middle Sackville has considerably lower proportions of both Millennials and Baby Boomers compared with provincial averages. The largest portion of the community’s population are those born between 1962-1976, though people in that demographic generally would have been too young to be the first homeowners in much of Millwood. The construction of so many new dwellings in the census area – and population shifts related to incoming families – make it difficult to discern whether early Millwood residents have aged in place or relocated out of the community.

Present housing shortages in Halifax may further pressure development at the fringes of the region. Nova Scotia’s population has grown by over 26,000 residents since 2015, and has brought the province’s population to nearly one million residents at the end of 2019.⁷⁵ This growth (largely attributed to immigration) has meant that

“For the first time in a generation, Nova Scotia’s population growth is almost keeping pace with the national average — a development that signals a reversal of fortune for a province that has languished economically.”⁷⁴

in the Halifax region – where rental vacancy rates were already low – the city is facing a rental crisis “unprecedented [...] since World War II.”⁷⁶ With less than 2% vacancy across the metropolitan area, rental prices have surged, pressing the need for affordable housing options.⁷⁷ The North American response to housing needs in the postwar era initiated the patterns of suburban sprawl still proliferating across the continent. In that light, response to the present-day housing shortage in Halifax is a moment where alternate solutions might be pursued, which might better preserve undeveloped areas at the urban periphery.

72 EDM and Gordon Ratcliffe Landscape Architects, “Sackville Greenway Multi-Year Development Plan,” 8.

73 “Timelapse: Landsat Satellite Images of Climate Change, via Google Earth Engine,” Timelapse, accessed March 3, 2020, <https://world.time.com/timelapse/>.

74 Michael MacDonald, “Nova Scotia’s Population Is Growing and That’s ‘Exceptionally Good News,’” *CBC News*, December 27, 2018, <https://www.cbc.ca/news/canada/nova-scotia/nova-scotia-population-surge-1.4959556>.

75 MacDonald.

76 Stephen Wentzell, “Halifax’s Unprecedented Rental Crisis,” *The Dalhousie Gazette*, September 6, 2019, <https://dalgazette.com/news/halifax-unprecedented-rental-crisis/>.

77 Wentzell.

The Fabulous Sackvegas - a Car Town

Beyond its classification as an auto-suburb by the Canadian Suburbs metrics, Sackville has a very particular relationship with cars. The community's development through the second half of the twentieth century hinged on its car commute to Halifax and Dartmouth. Somewhere along the line, Sackville also became the "the used car capital of Atlantic Canada."⁷⁸ Today there are about twenty car lots within a five kilometre stretch of Sackville Drive; in a 2019 *Chronicle Herald* article, one dealership owner notes that "more and more people are coming to Sackville because it's just like a shopping mall for used cars."⁷⁹ Sackville is set up for car usage. Nearly all shops and services are found in Lower Sackville, and their design is expressly car centric. Apart from car dealerships, most of Sackville Drive is lined with strip malls. Downsview, Sackville's main shopping district is a sea of parking lots dotted with a few large stores and small strip malls. Walking – even once you have reached the commercial district – is uncomfortable at best, and dangerous at worst. Middle Sackville is separated from commercial amenities by some of the most dangerous intersections in the Halifax Region. Sackville sees a much higher number of pedestrian collisions when compared to other auto-oriented neighbourhoods.⁸⁰

Beyond Sackville's used car fame, another a common trope in the Halifax region is the town's "undeserved bad rap."⁸¹ Sackville has a reputation for being rough, perhaps because of its affiliation with the *Trailer Park Boys* television series. Blogger Jeff Nielson describes his hometown as follows: "Sackville is quirky, kinda boring and

Illustration 10: Middle Sackville car lot
*Former home converted to a used car dealership
at 976 Sackville Drive. Photo September 2019*

78 Brian Hayes, "Web Changing Lower Sackville's Business District," *Chronicle Herald*, April 20, 2019, <http://www.thechronicleherald.ca/business/web-changing-lower-sackvilles-business-district-303760/>.

79 Hayes.

80 Heather O'Connor, "VEHICLE / PEDESTRIAN COLLISIONS" (Halifax Regional Police, December 2019), https://www.halifax.ca/sites/default/files/documents/fire-police/police/December%20Report%202019.pdf?utm_source=halifaxtoday.ca&utm_campaign=halifaxtoday.ca&utm_medium=referral.

81 Jeff Nielsen, "I Live in Sackville, and I'm Damn Proud of It," *The Coast Halifax*, February 14, 2013, <https://www.thecoast.ca/halifax/i-live-in-sackville-and-im-damn-proud-of-it/Content?oid=3670004>.

Illustration 11: Burton's *Little House* reimagined in Sackville

filled with a lot of houses filled with hard-working people.”⁸² ‘Sackvegas’ is a common nickname for the town, and as Nielson describes, “it’s funny because Sackville is, um, not really overly fabulous and it’s nothing like Vegas. The name is a joke, that’s it.”⁸³ The nickname was solidified by a 2011 April Fools joke, where an anonymous prankster covered the town sign with one resembling the sign for Las Vegas, which read, “Welcome to Fabulous Sackvegas.”⁸⁴

⁸² Nielson.

⁸³ Jeff Nielson, “How The Infamous April Fool’s ‘Sackvegas’ Sign Came To Be,” Haligonian, April 1, 2015, <https://haligonian.ca/how-the-infamous-april-fools-sackvegas-sign-came-to-be-104688/>.

⁸⁴ Nielson.

Chapter 3: Theoretical Background

“To be rooted is perhaps the most important and least recognized need... A human being has roots by virtue of his real, active and natural participation in the life of a community which preserves in living shape certain particular treasures of the past and certain particular expectations for the future.”

- *The Need for Roots* (1978),
Simone Weil

Introduction

Aspects of existing literature can offer something toward an approach for the rehabilitation of existing twentieth-century suburbs into sites of future heritage, however, no single school of thought adequately addresses this complex question. In the fields of planning and urban design, many communities are being built in more sustainable patterns following the principles of New Urbanism. Heritage conservation processes support the appropriate adaptation of existing sites; values-based analysis of places can serve to identify and assess the most significant and vulnerable attributes of a place. Critical regionalism is an approach to architectural design which draws from the local context and vernacular history to create a profound *sense of place* – a philosophy which might drive site-sensitive contemporary architectural expressions. Each of these areas alone only partially addresses questions around the future of existing suburban communities, but in overlaying aspects of each, a more holistic approach might be developed.

Planning & Urban Design - New Urbanism

Design for sustainable communities must begin at the urban scale. New Urbanism is a planning and development approach, which “focuses on human-scaled urban design.”⁸⁵ The movement dates from the early 1990s, and maintains that “our physical environment has a direct impact on our chances for happy, prosperous lives.”⁸⁶ The primary document of the Congress for the New Urbanism (CNU) is the *Charter of the New Urbanism*, which sets out twenty-seven principles for the design of complete communities; these principles are organized along three scales of the built environment, namely: The Region: Metropolis, City, and Town; The Neighborhood, The District, and The Corridor; and, The Block, The Street, and The Building.⁸⁷ These scales provide a framework for the analysis of a largescale site, while at the same time affirming the intrinsic interrelationships between the components of urban landscapes. Many principles from New Urbanism have come to be recognized as planning best practices,⁸⁸ and the CNU has been involved in the development of both the Smart Growth movement, and the LEED for Neighbourhood Development system. These

85 Congress for the New Urbanism, “What Is New Urbanism?,” Text, CNU, May 18, 2015, <https://www.cnu.org/resources/what-new-urbanism>.

86 Congress for the New Urbanism, “The Movement,” Text, CNU, April 20, 2015, <https://www.cnu.org/who-we-are/movement>.

87 Robert Steuteville, “Great Idea: Charter of the New Urbanism,” Text, CNU, April 20, 2017, <https://www.cnu.org/publicsquare/2017/04/20/great-idea-charter-new-urbanism>.

88 Jill Grant, *Planning the Good Community: New Urbanism in Theory and Practice* (London, UNITED KINGDOM: Routledge, 2005), 203, <http://ebookcentral.proquest.com/lib/oculcarleton-ebooks/detail.action?docID=254370>.

“incentive- and policy-based”⁸⁹ offshoots resonate strongly with developers and policymakers, and demonstrate New Urbanism’s “ability to align its design strategies with government development objectives and market interests.”⁹⁰

Literature stemming from the New Urbanist movement supports complex site analysis and provides strategies and metrics for the design of sustainable communities. However, there are limitations to the approach from New Urbanism in pursuing future heritage

“as inspiring as they are, however, new urbanist communities are generally built apart from existing developments. They don’t help us cope with the legacy of suburbs.”⁹¹

in existing suburbs. Most New Urbanist developments are constructed in *greenfield sites*; in *The Ironies of New Urbanism*, Jill Grant notes that, “despite its advocates’ antipathy towards sprawl, new urbanism contributes to the problem.”⁹² New Urbanism is also somewhat ambivalent toward existing buildings; the *Charter’s* principles strongly recommend respecting historical patterns, though only the very last principle directly addresses extant built fabric. This generically reads, “preservation and renewal of historic buildings, districts, and landscapes affirm the continuity and evolution of urban society,”⁹³ and does not address the reuse potential of those existing structures.

Additionally, New Urbanism tends to underestimate the importance of architectural design, recognizing its value only in the ways it may serve urban-scale goals. The movement is often associated with the application of a nostalgic, historicist pastiche; some critics hold “that plastic fences, non-functional front porches, fake balconies, and false dormer windows undermine the credibility of a movement that stresses the significance of authentic urban environments.”⁹⁵ While *architectural style* may be of little importance, expression is everything; fostering a compelling architectural expression is critical to the creation of high-quality built environments.

While New Urbanism serves as a strong counterpoint to typical suburban development, it offers very little to questions of future heritage. The practice of New Urbanism tends to further the problem

89 Congress for the New Urbanism, “Smart Growth and New Urbanism: What’s the Difference?,” Text, CNU, January 1, 2000, <https://www.cnu.org/publicsquare/smart-growth-and-new-urbanism-what%E2%80%99s-difference>.

90 Grant, *Planning the Good Community*, 204.

91 Fowler, “Heritage in the ‘Burbs,” 4.

92 Jill Grant, “The Ironies of New Urbanism,” *Canadian Journal of Urban Research; Winnipeg* 15, no. 2 (Winter 2006): 166.

93 Congress for the New Urbanism, “The Charter of New Urbanism,” 1996, <https://www.cnu.org/who-we-are/charter-new-urbanism>.

94 Dunham-Jones and Williamson, *Retrofitting Suburbia*, 14.

95 Grant, *Planning the Good Community*, 206.

of sprawl, even while decrying its proliferation in principle.⁹⁶ The movement does not adequately acknowledge or engage the potential of existing built environments, and treats architectural design as an afterthought, or a footnote to urban objectives. Moreover, the application of a traditionalist vocabulary may indeed contradict the idea of future heritage - rather than speaking to the date of its construction, historicism obscures architecture's temporality.

Heritage Conservation - Values-based Conservation

“heritage is not self-evident, with intrinsic/inherent values... it is people/ stakeholder groups that ascribe (subjective) values to it and define heritage.”⁹⁷

Redevelopment of existing suburbs requires a method for working within the existing built environment. Heritage conservation can address building reuse; *values-based conservation* specifically can facilitate an understanding and assessment of the values of a place. Departing from a *material-based approach*, values-based conservation acknowledges heritage value as being “ascribed to places by people.”⁹⁸ The *Standards and Guidelines for the Conservation of Historic Places in Canada* is a key document for the practice of heritage conservation; embracing a values-based approach, it outlines the multi-phased conservation decision-making process of Understanding, Planning, and Intervening.⁹⁹ Values-based conservation has also led to new ways of thinking about heritage, allowing for a wider range of possible values. This is evident in the relatively recent recognition of heritage from the modern era, and increased appreciation for “the heritage of everyday life.”¹⁰⁰ Building from the concept of *value-ascription*, recent approaches have sought to better address values in complex contexts. These include the historic urban landscape approach, which looks to reconcile heritage conservation with the pursuit of sustainable development, while operating at the scale of the landscape. Another example is a living heritage approach, which emphasizes continuity, not only of physical heritage attributes, but of function and community presence.¹⁰¹

96 Grant, “The Ironies of New Urbanism,” 166.

97 Ioannis Poullos, *The Past in the Present: A Living Heritage Approach - Meteora, Greece* (London: Ubiquity Press, 2014), 21.

98 Christina Cameron and Shabnam Inanloo Dailoo, eds., “Impact of Sustainability Strategies on Heritage Conservation Practice, Proceedings of Round Table Held in Montreal, 9-11 March 2011” (Montreal: Canada Research Chair on Built Heritage, 2011), 177, <https://papyrus.bib.umontreal.ca/xmlui/handle/1866/21500>.

99 Parks Canada, *Standards and Guidelines for the Conservation of Historic Places in Canada: A Federal, Provincial and Territorial Collaboration.*, Second Edition (Ottawa: Parks Canada, 2010), 3, <https://www.historicplaces.ca/media/18072/81468-parks-s-g-eng-web2.pdf>.

100 Sharon Macdonald, *Difficult Heritage: Negotiating the Nazi Past in Nuremberg and Beyond* (Milton Park, Abingdon, Oxon ; New York: Routledge, 2009), 10.

101 Ioannis Poullos, “Moving Beyond a Values-Based Approach to Heritage Conservation,” *Conservation and Management of Archaeological Sites* 12, no. 2 (May 1, 2010): 175. \u0022Conservation and Management of Archaeological Sites\u201d 12, no. 2 (May 1, 2010)

Values-based conservation supports processes of understanding and responding to the existing built environment, and, this approach has paved the way for a wider range of sites and values to be recognized as heritage. In this way, values-based conservation can support the rehabilitation of existing suburban neighbourhoods, and may inform the process of identifying and enhancing value-potential therein. However, to apply only a heritage approach does not sufficiently address the design of sustainable communities. While the historic urban landscape approach is beginning to recognize and promote the role of sustainability at the urban scale – its documentation does not provide practical direction for achieving sustainable community design in the ways that New Urbanism does. A living heritage approach fosters ideas of continuity – but the mode of values-based conservation tends to prioritize what is over what could be. New architecture in values-based conservation – much as within New Urbanism – is expected to be subservient to the objectives of the approach; in this way, the architectural expression is secondary to the agenda that it serves. While not prohibited, interventions are not required to have a life or an entity of their own; rather, it's recommended that they be reversible, and that their presence be subordinate to, and compatible with pre-existing structures.¹⁰² In contrast to historic sites with considerable architectural interest and integrity, tract housing will seldom deserve the same level of deferential treatment – and in the context of twentieth-century subdivisions, prioritizing existing structures over new interventions may hinder the development of future heritage.

Values-based conservation, and approaches that have developed in its wake, can support a methodology for rehabilitating existing suburbs. A values-based approach facilitates the reuse of existing built environments and provides a framework for assessing areas of value in the present, which might be protected and enhanced for the future. The historic urban landscape considers heritage at a large scale, but this approach gives no pragmatic basis for the design of sustainable communities. And while living heritage “moves away from a focus on the preservation of the past to a focus on how the past is used in a contemporary context,”¹⁰³ the conservation focus on past and present does little to inform a design ideology for the future.

102 Parks Canada, *Standards and Guidelines for the Conservation of Historic Places in Canada*, 23.

103 S. L. Massey, “Living Heritage & Quality of Life: Reframing Heritage Activity in Saskatchewan” (Heritage Saskatchewan, 2012), <https://heritagesask.ca/pub/documents/Resources/Living%20Heritage/Quality%20of%20Life%20.pdf>.

Contemporary Architectural Design - Critical Regionalism

Contemporary places which are deeply embedded in their context reflect the time and place of their origin; places with high-quality architectural expression, which serve the needs of their community are more likely to resonate with the people who frequent them. Critical regionalism is a movement in architectural theory and design which “emerged after World War II as a reaction to a new wave of globalization... in an effort to create intelligent structures better adapted to the region, to environmental resources, and to cultural constraints, it reused and reinterpreted precedents of local architecture.”¹⁰⁵ The design approach of critical regionalism prioritizes specificity of place, dialogues with the local climate and landscape, and respects historical contexts whilst avoiding nostalgia. Critical regionalism seeks to

“making buildings, landscapes and cities that treasured the particularity of a region, its unique environment and materials, the special character of its culture, and the way of life of its people.”¹⁰⁴

develop an authentic contemporary expression which stems from its locality. This approach has often manifested in the twenty first century architecture of Nova Scotia; a regionalist vision is particularly discernable in the works of Omar Gandhi and Brian MacKay-Lyons. The respective works of these two architects clearly demonstrate contemporary reimagining of vernacular forms coupled with a conscientious response to landscape. Rather than recreate or historicize the architectural legacy of the east coast, these expressions seek to celebrate and reinterpret the past within a contemporary context.

The impact of architectural expression is often underestimated in New Urbanism and values-based conservation; Critical regionalism addresses “the role that design can play on the level of the site in enhancing community – especially within a loaded historical context.”¹⁰⁶ This movement is missing the methodological frameworks embedded in the other approaches, and does not provide directives for the creation of sustainable communities, or any methodology for working with existing buildings or assessing heritage values. What it does offer, however, is a strong response to the concept

104 Liane Lefaivre and Alexander Tzonis, *Architecture of Regionalism in the Age of Globalization: Peaks and Valleys in the Flat World* (Abingdon, Oxon ; New York: Routledge, 2012), viii.

105 Lefaivre and Tzonis, 199.

106 Liane Lefaivre and Alexander Tzonis, *Critical Regionalism: Architecture and Identity in a Globalized World*, Architecture in Focus (Munich ; New York: Prestel, 2003), 7.

of building for future heritage. Liane Lefaivre and Alexander Tzonis identify a desire within critical regionalism “to design with the focus on local needs and potential, thus aiming to achieve a long-term environmental quality, foreshadowing what we today call sustainable design.”¹⁰⁷

“if any central principle of critical regionalism can be isolated, then it is surely a commitment to place rather than space.”¹⁰⁸

Critical regionalism has a lot to offer the question of future heritage, and it has a strong relationship with the culture of contemporary architecture in Nova Scotia in particular. The intentions embedded within critical regionalism seem to directly counter some of the design issues of existing suburbs, perhaps the greatest of these being the loss of a sense of place. In terms of holistic sustainability, quality, at all levels, will support a longer future; MacKay-Lyons expresses that “in architecture, good intentions, while essential, are not enough. To borrow Glenn Murcutt’s words on sustainability: ‘First it must be good architecture.’”¹⁰⁹ The *Charter of the New Urbanism* is getting at an idea like critical regionalism when it states that “architecture and landscape design should grow from local climate, topography, history, and building practice.”¹¹⁰ But without attention to quality

and intent in architectural expression, this goal might often lead to a shallow, historicist veneer. A critical regionalist approach to design supports a contemporary, twenty-first century expression of local architecture – and has the potential to engage past and present in building for the future.

Illustration 12: Works of Omar Gandhi

Above: Float in Halifax has a strong relationship to its rocky context. Below: Rabbit Snare Gorge in Cape Breton demonstrates a contemporary expression which draws from vernacular forms

¹⁰⁷ Lefaivre and Tzonis, 6.

¹⁰⁸ Kenneth Frampton, “Prospects for a Critical Regionalism,” *Perspecta* 20 (1983): 162, <https://doi.org/10.2307/1567071>.

¹⁰⁹ MacKay-Lyons and McCarter, *Local Architecture*, 11.

¹¹⁰ Congress for the New Urbanism, “The Charter of New Urbanism.”

Part I Summary

The scale and complexity of redeveloping existing suburbs with the intention of fostering sites of future heritage requires a method of approach that can address a multiplicity of considerations. The prevalence of late twentieth century suburbs, and the social and environmental issues that they perpetuate makes them a major part of planning for how Canadians will live - both in the present and in the future. A case study of heritage potential in existing subdivisions will be explored in Millwood, a community which gets typecast by its suburban qualities, its car-crazed business district, and its alleged “rough reputation.”¹¹¹ For many of the same reasons that Sackville was initially identified as a growth area for the Halifax Region, the community continues to grow today. The problems are many, but the potential is great. Poised between past and future, redevelopment of Millwood is an opportunity to embrace and enhance the community’s best attributes, while reimagining some of its worst.

Though no existing approach may be appropriately suited to this challenge, a hybrid model drawing on existing literature can be developed to better engage with, and respond to, the thesis question of future heritage in the suburbs. Principles from New Urbanism serve to inform approaches for the sustainable design of communities; a multi-scalar reading of the site is crucial both to adequately understanding, and responding to the complexity of suburban neighbourhoods. As per the diagram below (Illustration 13), the scales of the *Charter of the New Urbanism* have been overlaid with the three phases of the conservation decision-making process, as outlined in the *Standards and Guidelines*. Though loosely sequential, the Understanding, Planning, and Intervening process is iterative; engagement

Illustration 13: Methodological Framework diagram

¹¹¹ Nielsen, “I Live in Sackville, and I’m Damn Proud of It.”

with the site in the context of design development may reveal of new layers of understanding or depth of insight which had not previously been apparent. Much as the context of the macro scales cannot be forgotten in the move to a more focused, micro-level study of the site – the phases of the conservation decision-making process should be allowed to form and inform one another.

	New Urbanism	Values-based Conservation	Critical Regionalism
Positively supports future heritage in the suburbs	<ul style="list-style-type: none"> Sustainable approach for the design of neighbourhoods Provides clear metrics for design objectives Supports analysis of sites at multi-scalar levels 	<ul style="list-style-type: none"> Provides approach for responding in existing built environments Can support assessment of heritage values and potential Allows for continuity and evolution of existing sites 	<ul style="list-style-type: none"> Supports quality design of a localized architectural expression Relationship to landscape, and use of vernacular techniques supports sustainable design
Does not support future heritage in the suburbs	<ul style="list-style-type: none"> New greenfield communities contribute to sprawl Traditionalist design language does not support future heritage Does not adequately address the existing built environment 	<ul style="list-style-type: none"> Approaches do not give metrics for sustainable community design Does not directly support a design approach for compelling architectural expression 	<ul style="list-style-type: none"> Does not address working with existing built fabric Does not provide metrics for sustainable community design No tools for assessment of values and potential

Illustration 14: Attributes of individual approaches which do - and do not - support the thesis question of future heritage in existing suburbs

The role of Critical Regionalism as an approach to design is most apparent in the phase of Intervening through Design, and in the fine-grain urban scale of the Block, the Street, and the Building – however, the application of this approach will benefit significantly from the place-based knowledge acquired through a multi-scalar, multi-phased analysis of the site. Integration of Critical Regionalism as a third pillar to the methodology emphasizes the hugely important role of the architecture of new interventions in the pursuit of future heritage. In the next section, the process of applying this methodology is explored, as considerations from literary principles are combined with site-specific study to develop an approach to redeveloping Millwood as a site for future heritage.

PART II:

Planning an Approach

Chapter 4:

Research

Methodology

“Though perhaps the modern suburbs are unlikely to be formally designated as heritage, understanding both their values and issues will be critical to finding appropriate solutions to reinvest in this critical part of the existing built environment.”

- “How Green Was Canadian Modernism” (2008), Susan Ross

Introduction

Rather than developing an entirely new process or procedure, this thesis pursues the integrated application of ideas typically administered separately from one another. Research has been both at the level of architectural theory and the level of the local context. Site-specific research has combined review of municipal, planning, and environmental reports, community consultation-based documents, and visits to the study site. These deliberate methods of research are paired with the author's lived experience of growing up in Middle Sackville and maintaining familial ties to the site through adulthood. With the time and distance constraints of the thesis, community-based literature review and personal experience with the site have had to stand in for active means of community consultation (for summary of key sources, see Appendix C: Community Literature Review).

Illustration 15: View of the study area from one of its highest elevations, Sept. 2019

Determining a Study Area

Millwood is nearly all residentially zoned, with a few businesses (mostly used car dealerships) along Sackville Drive, and residential amenities like public schools and churches among the only exceptions. The identified study area extends from the Millwood subdivision to include surrounding neighbourhoods; its boundaries do not adhere to census tracts, nor do they match the exact borders of Middle Sackville. Instead, the extents of the defined Millwood study area are identified largely by physical edge conditions surrounding the community.

Boundaries have been delineated along major roadways which act as thresholds, particularly from a pedestrian perspective. These are: Highway 101 to the southwest, the Beaverbank Connector and Beaverbank Road to the east, and the Margeson Road exit to the west. Initially, the final edge of

Illustration 16: Study Area with key features

Research Site Visits

I have had a lifelong relationship with the site – I was raised on Valleyfield Farm, attended public school in the Millwood subdivision, and worked at the neighbourhood ice cream hut as a teenager. After moving to central Halifax in 2011, I continued to regularly visit family in Middle Sackville until relocating to Ottawa in 2015. Today, my entire immediate family still lives in the thesis study area. I visited Middle Sackville on three occasions in 2019; brief descriptions of research activities, and the level of analysis conducted during each of these visits is outlined below.

the border was set at the undeveloped areas along the north portion of the site. However, as the study has progressed, it became apparent that portions of these wooded areas should be considered in the long-term planning for the site. This is done to include the source of the Little Sackville River at Feely and Little Lakes, and to respond to present development pressures suggesting that the area north of Millwood is earmarked for future expansion of suburban development. The north edge of the site was extended to the rail tracks which separate Middle Sackville from Beaverbank.

Illustration 17: The Ellis Farm

Above: the author on Valleyfield farm in 1994. Below: the author's not-so-little house c. 1984

August 2019:

Although I am familiar with the site already, the intention of this visit was to begin observing it more analytically, and developing a baseline understanding of typical (and non-typical) conditions of the site. Approximate extents of the overall study site were determined following this visit. Recently constructed housing developments, and potential site edge conditions were the focus of this trip. Observations were split between car and foot – but largely conducted as a vehicular passenger.

Illustration 18: August site survey route

Illustration 19: Survey photos from August 2019

New and ongoing construction in the Twin Brooks subdivision. Left: Executive Drive. Right: Gallery Crescent

September 2019:

During this visit, I conducted documentation for a typological study of housing in the site, along with a general study of other neighbourhoods in Halifax. Observing different eras of development and types of housing were the focus of this visit. Most of the research within the site was conducted on-foot, with one afternoon of driving to neighbourhoods less accessible by walking. Study of other communities in the Halifax Region was conducted largely as a vehicular passenger, with a few quick walkabouts.

Illustration 20: September site survey route

Illustration 21: Survey photos from September 2019

*Millwood Homes. Left: Late-Millwood houses on Scaler Court.
Right: Early Millwood houses on Beaverbank Cross Road*

December 2019:

After a semester of research, certain areas of the site were earmarked for a closer look at possible surviving pre-subdivision homes. Early streets, and other non-typical development patterns were the focus of this visit. Having generally identified a sub-site prior to Colloquium II, a more focused observation of Millwood Drive around the area of Millwood Common was conducted. This research was carried out entirely on foot, to better assess opportunities of engagement with the river and floodplains, and to observe walking conditions of the site.

Illustration 22: December site survey

Illustration 23: Survey photos from December 2019

*Pre-Millwood. Left: Pre-subdivision home on Connolly Road.
Right: Early subdivision at Judy Avenue*

Typological Study

A key part of the on-site observation process was to identify areas with potential for improvement as well as those with the potential to be an asset to the community. The surveys included documenting the pedestrian experience of the site – taking particular note of instances where walkers can experience the Little Sackville River, and areas where pedestrian safety is an issue. A key aspect of analyzing the site was conducting a typological survey of the residential housing forms in the study area (for a visual synthesis of the observations from the typological study, see Appendix B).

Through the study of housing types in Millwood and surrounding neighbourhoods, certain initial suppositions were confirmed, while other less apparent attributes were discovered. To analyze the built form of the study site, on-the-ground observations were compared with building information retrieved from Halifax Open Data and other digital sources. Millwood's single-use residential zoning is validated by the numbers – though there are over 3,000 structures in the study area, only 43 are **not** residential.¹¹² The built environment of Millwood is largely comprised of single dwelling buildings; indeed, almost 70% of structures are detached houses. But, by number of dwellings, nearly half of all homes in the study area are a type other than a single unit dwelling – including semi-detached dwellings, mobile homes, apartments, townhouses, and a small handful of residential care facilities.¹¹³

Non-residential use types

Residential structures

Residential units

Illustration 24: Building type distribution diagrams

¹¹² Halifax, "Building Details," Open Data, accessed March 10, 2020, http://catalogue-hrm.opendata.arcgis.com/datasets/62516c1825de46cbb18178205ffcca18_0.

¹¹³ The proportion of detached houses to other dwelling types is 54% versus 46%

Illustration 25: Millwood Elementary School, Sept. 2019

An example of a community/residential amenity

Illustration 26: Commercial businesses in Middle Sackville, Sept. 2019

Left: Long Dragon Restaurant. Right: Needs Convenience, Millwood Hairstyling

Illustration 27: The Vineyard: Church, Cafe, and Ice Cream Hut, Sept 2019

A rare third place for Millwood, the Vineyard supports social engagement

Age of neighbourhoods was approximated through combined analysis of historic aerial photography, real estate construction data, and visual estimation of construction timeframes. Housing types through time are shown in Appendix B, with approximate eras of suburban development delineated relative to the construction phases of the Millwood subdivision. Early-, Mid-, and Late-Millwood are approximated timeframes estimated by the author based on spurts of construction observed in aerial imagery over time.¹¹⁴ One notable trend from the timeline is a Pre- and Early-Millwood interest in multi-unit dwellings (semi-detached, apartments, and townhouses) which, apart from some instances of semi-detached homes, tails off through Mid- and Late-Millwood developments. However, in the Post-Millwood developments, particularly in the Sunset Ridge subdivision, there has been a huge resurgence of these housing types.

Another observation relates to the changing trends in single-detached houses through time. Forms bearing a strong resemblance to pre-subdivision house types (like the *bungalow* or *two-storey* homes) have appeared fairly consistently in new construction throughout the second half of the twenty century, and indeed persist in twenty-first century Middle Sackville subdivisions. Whereas the *split-entry* house - which may be the single most prevalent house type in the study area - was intensely popular throughout Early- and Mid-Millwood developments, but peters off in Late-Millwood construction, and is completely unrepresented in new builds of the twenty-first century.¹¹⁵

Illustration 28: Victoria Place,
Pre-Millwood apartments

Illustration 29: Sunset View,
Post-Millwood apartments

Illustration 30: Early Millwood
Split-entry, Beaverbank Cross Road

¹¹⁴ "Timelapse: Landsat Satellite Images of Climate Change, via Google Earth Engine," Timelapse, accessed March 3, 2020, <https://world.time.com/timelapse/>.

¹¹⁵ CMHC calls this house type a Raised Bungalow, but this thesis uses instead the terminology from Allen Penney's *Houses of Nova Scotia*. (Allen Penney, *Houses of Nova Scotia: An Illustrated Guide to Architectural Style Recognition* (Halifax, N.S: Formac Pub. Co. : Nova Scotia Museum, 1989).

Chapter 5:

Community

Objectives

“No project can respond to all aspects of sustainability. However it is important to be able to see what qualities are performing well or poorly and then to define which can be improved with as little impact possible.”

- “Sustainability Compass”,
(n.d.), Bureau Urbanisme

Introduction

Community-based literature and principles of New Urbanism were applied in concert to develop a series of site-specific community objectives. Establishing community objectives can help to guide project development and may also be used as metric for assessing the impact of design proposals. This chapter discusses the concept and various definitions of 'community' which might be understood in Millwood. A series of on-site observations are outlined which led to the determination of community objectives. Site access and consultation being limited, community-based literature is used as an additional research source for identifying problem areas and priorities within the neighbourhood. The developed objectives are used to identify possible programmatic areas for interventions, and provide a metric for the evaluation of proposed interventions.

Approach: Developing Community Objectives

Development of objectives early in an urban scale project is useful both to prioritize problem areas, and to assess the direction and impact of project proposals on an ongoing and cyclical basis.¹¹⁶ Key local documents for ascertaining community priorities were a 2009 Middle – Upper Sackville & Lucasville Community Visioning document, and Katherine Thompson's Master of Planning thesis, "Women's Perspectives on Suburbs and Social Contact: A Case Study in Lower Sackville, Nova Scotia," from the same year. Though these community documents are over a decade in age, it is important to note that many areas of concern identified remain largely unaddressed eleven years later. The *Charter of the New Urbanism* (1996), *Smart Growth Principles* (n. d.), and *LEED for Neighbourhood Development* (2009) were also used in community objective development. The diagram below arranges the objectives approximately according to the area(s) of sustainability they most strongly represent. Identified as top priorities in the Millwood study area are *Walkability* and *Flooding Considerations*, which each touch on a series of related concerns. Strongly addressing these two objectives would have some of the most positive environmental and social impacts on the community and would support increased safety in both the short- and long-terms. Below are the author's observations which supported the identification of nine community objectives.¹¹⁷

116 "The Urban Scale Sustainability Compass," Bureau Urbanisme, accessed December 15, 2019, <http://sustainabilitycompass.eu/>.

117 See also Glossary in Appendix A for further definitions of key terms pertaining to community objectives.

Illustration 31: Community Objectives Base Diagram

Community Objectives developed by combining principles of New Urbanist literature with site-specific priorities. Arranged approximately correlating to areas of sustainability.

Walkability/
Transportation

Auto-oriented community design, limited sidewalks and cycling infrastructure, poor roadway visibility, few safe crossings, limited transit options within community.

Flood
Considerations

Seasonal flooding impacts, particularly in the Sackville Estates mobile home community. Would benefit from improved ecological condition, and resiliency for the future.

Natural
Heritage

Natural heritage is underestimated, and largely inaccessible. Potential for natural heritage includes the river system, wetlands, wooded areas, physical traces of agriculture and lumber industry.

Sustainability
of Buildings

Detached single homes, typically with builder-grade materials and detailing offer room for improvement.

Land Use
Intensification

Low density of neighbourhood introduces opportunity to enhance site functionality. Better engagement of existing space is imperative to creating a walkable urban form.

Business
and Economy

Primarily single-use subdivision – more rental properties, commercial amenities, offices, and other programming might activate a local economy.

Social Equity

The area has an exclusionary history. Physical and economic lines are drawn between neighbourhoods; affordable, accessible, and rental options for living in the Millwood area are extremely limited.

Built Heritage

Built heritage potential is limited in the Millwood area – so those sites it has become all the more significant. These might be preserved, and the community made more aware of its early architecture.

Community
and Identity

Sense of place is something sorely missing from the Millwood subdivision. Sense of community is present – but there are opportunities for this to be better engaged.

Application: Assessing Programmatic Areas

Nine initial programming areas were selected as those which might most directly respond to the community objectives. These were primarily developed based on community identified issues and areas of need and can be further supported by examples from built projects.¹¹⁸ Each programming proposal was assessed for how well it would address community objectives; iterations of Illustration 31 were developed to visually represent the impacts of each proposed programming area. Relative size of the icons pertaining to each community objective indicates whether that subject area may be strongly addressed, somewhat addressed, or possibly addressed in each program proposal. The absence of a circle indicates that that community objective is not addressed in that particular program, while a dark outline with no colour fill demarcates objectives which may be negatively impacted by the programming proposal.

SACKVILLE RIVER GREENWAY: *An existing proposal to extend a pedestrian/cycling greenway along the entire length of the Little Sackville River. The first phases (outside of the defined study area) have already been initiated.*

COMMUNITY AMENITIES: *Within Millwood, community amenities include churches and schools, and limited parks. Recreation and library services are identified as underserved in the area, pressure will increase with population growth.*

COMMERCIAL AMENITIES: *Few commercial amenities are walkable for Millwood. Opportunity exists to introduce new programming, support a local economy, and provide 'third places.'*

¹¹⁸ Ellen Dunham-Jones and June Williamson, *Retrofitting Suburbia: Urban Design Solutions for Redesigning Suburbs* (Hoboken, N.J.: John Wiley & Sons, 2009).

ROAD DIET/REDESIGN: *Auto-oriented 'design' of streets makes them unwelcoming to active transportation. Road redesign might better support public transit, and may introduce opportunities for improved landscaping and stormwater management.*

INTERVENTIONS TO EXISTING HOMES: *Opportunity to improve sustainability of the community at the scale of the building, address accessibility, and other neighbourhood needs.*

HOUSING DIVERSITY: *Millwood is mostly filled with owner-occupied detached or semi-detached homes. Rental and accessible homes are extremely limited; introduce options suited to Baby Boomers and Millennials.*

(SUB)URBAN AGRICULTURE: *Agriculture reflects the site's past and is among the few approved uses of floodplain areas. Some Millwood households make productive use of their lawns and yards as kitchen gardens.*

FLOODPLAIN RELOCATION: *Only programming option with negative impacts toward Community Objectives. Negatively affects social and community values, but long-term health of the floodplain would be supported.*

GREENSPACE IMPROVEMENT: *Access to quality parks and recreation space is extremely limited in the study area; poor stormwater management makes greenspaces less usable. Opportunity to better engage the river and floodplains.*

Past and Present Community

The concept of a 'core community', as expressed in a living heritage approach is considered in the development of this series of objectives. This method, as described in Chapter 3, operates on the belief that the site is valuable to no one more than those who use and engage with it on a daily basis – typically those who live and/or work in the site. As Millwood is a predominantly residential neighbourhood, very few people work in the subdivision, so the core community would be mainly residents. However, there are certain limitations to the employed methodology. Community-based resources used to inform these objectives do not comprehensively survey residents – and may be voicing the opinions only of certain contingents within the community. The present composition of the area stems from a long history of the removal and exclusion of marginalized people groups. Indeed, the current demographics of the Millwood area reflect the types of racial and socio-economic division identified among the most sinister traits of suburbanization. Moreover, the present community is unable to adequately speak to the interests of the future community.

British colonization had devastating impacts on Indigenous and Acadian populations across the province. As mentioned in Chapter 2, the route between Chebucto and Pisquid (now Halifax and Windsor), which had been important for seasonal travel of the Mi'kmaw people, became a great road for the English. Today, the past relationships of Indigenous and Acadian people to the Sackville River Valley are not manifestly evident, as are the patterns of British settlement. One such pattern is the racial segregation of Nova Scotian settlements. The land that became Sackville was divided into Loyalist grants, with many lots being resold to other British settlers. Adjacent to Sackville is Lucasville, an historic African-Nova Scotian community, whose settlement dates "back to the early 1800s, when Black Refugees from the United States first settled the area after the War of 1812."¹¹⁹ Lucasville is one of several communities in the Halifax region which were established by Black Loyalists, an incredible legacy which is grossly underrepresented in Nova Scotian history. The Nova Scotia Museum writes that, "many people, including descendants of these early settlers, do not know the origins of Black Loyalist communities and families in Nova Scotia... as one descendant put it, 'we didn't have time to look for our history; we were too busy trying to survive.'"¹²⁰

119 Cassie Williams, 2017 6:10 AM AT | Last Updated: December 10, and 2017, "Historic Black Community of Lucasville May Finally Settle Boundary Dispute," CBC, December 10, 2017, <https://www.cbc.ca/news/canada/nova-scotia/lucasville-boundaries-historical-african-nova-scotia-community-halifax-council-1.4433799>.

120 Nova Scotia Museum, "Remembering Black Loyalists - Recovering the History," Nova Scotia Museum, accessed April 23, 2020, <https://novascotia.ca/museum/blackloyalists/recovering.htm>.

Historic exclusionary patterns persist in the present; less than 5% of residents in census aggregate dissemination area 12090015, (which captures most of the study area, and all of the Millwood subdivision), identify as a visible minority.¹²¹ Division along socio-economic lines is inherent to the Millwood community. The study area has much higher proportions of high-earning households when compared with incomes across the Halifax region. The median total income of households in 2015 was \$91,097 for the aggregate dissemination area most closely matching the study site; by comparison, that of the Halifax CMA was \$69,522 in the same year.¹²² In the same census area, houses are larger than most in Halifax; about 84% of dwellings in the census aggregate area being either a three or four bedroom home.¹²³ Only about 15% of households in the same area are rented, the vast majority are owner-occupied. These factors mean that living in Millwood often demands a requisite level of purchasing power - furthering a long history of marginalization and exclusion.

Future Community

The identified programmatic areas and developed community objectives suggest changes to the Millwood neighbourhood which might also affect the makeup of its core community in the future. Most notable changes might be brought about by housing diversity and introduction of amenities. Amenities of all types— commercial, community, and recreation – will engage a larger group of users for Millwood. Convenient access to amenities will make the neighbourhood a more appealing home for many people, including younger generations, seniors, and others for whom transportation may be a challenge. With new public spaces and resources, Millwood will also become a destination for those living in other neighbourhoods who might come to work, play, shop, or learn. This type of user will become another set of core community – those who are invested in the life of the site despite living elsewhere.

Further, a diversified offering of dwelling types will create opportunities for a wider range of families to be part of the core community who live in Millwood. Increasing the availability of rental options will make the neighbourhood more accessible to households from a broader range of socio-economic demographics. Varying sizes of newly introduced dwellings may improve affordability as well –

¹²¹ Statistics Canada Government of Canada, "Census Profile, 2016 Census - 12090015 [Aggregate Dissemination Area], Nova Scotia and Halifax [Census Metropolitan Area], Nova Scotia," February 8, 2017, <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=ADA&Code1=12090015&Geo2=CMA&Code2=205&SearchText=halifax&SearchType=Begin&SearchPR=01&B1=All&TABID=1&type=1>.

¹²² Government of Canada, "Census Profile, 2016 Census - 12090015 [Aggregate Dissemination Area], Nova Scotia and Halifax [Census Metropolitan Area], Nova Scotia."

¹²³ Government of Canada, "Census Profile, 2016 Census - 12090015 [Aggregate Dissemination Area], Nova Scotia and Halifax [Census Metropolitan Area], Nova Scotia."

allowing residents to buy or rent only as much space as their household needs. Accessibility is another option presently lacking from most homes in the Millwood subdivision; introducing universally accessible dwelling units would strongly support social equity in the neighbourhood and would make aging in place a viable option for older residents.

In these ways, even while taking cues from the present residents of the site, the objectives build toward a core community which may look quite different from the one we see today.

Chapter 6: Heritage Valuation

“To be sure, historic preservation by its very nature surpasses today’s concerns... Knowing how differently our forebears viewed things, we are forced to acknowledge our own time-bound limitations.”

- *Authenticities Past and Present* (2008),
David Lowenthal

Introduction

One aspiration of this thesis was to apply a heritage perspective to a non-heritage site; in its local context, Millwood may objectively be considered non-heritage. Today, heritage policy and evaluation processes in Halifax are far from considering the value-potential in modern sites, with only one site in from the second half of the twentieth century having been designated at time of publication.¹²⁴ While we may only assess heritage value from the perspective our current cultural milieu, certain attributes of heritage sites can be identified which might inform decisions on design for the future, and preservation in the present. For example, in thinking about the types of heritage values expressed in the *Standards and Guidelines*, assessment of aesthetic and scientific values may be largely based in contemporary perceptions of the original construction, while historic, cultural, social and/or spiritual values may relate to the structure's tangible form, but often have much more to do with the life of the site after it is built.¹²⁵

By assessing thematic categories relating to both the early history of Middle Sackville, and the twenty- and twenty-first century life of Millwood, areas of value-potential might be identified. In terms of supporting potential future heritage, actions in the present might include: enhancing existing community functions and creating opportunities for new engagement; preserving extant historic fabric, and making these physical traces more known to the community; finding ways to remember and re-engage elements of the site's past which are now lost or obscured; and, recognizing possible themes of historical significance, and embracing the attributes that demonstrate these patterns.

Approach: Continuities of Heritage Values

In the context of Millwood, and with the intention of engaging the site's future heritage potential, timeframe becomes an interesting question. Continuity – and its counterpoint of discontinuity – as applied in a living heritage approach has been a useful tool in conceptualizing a way of understanding heritage value in the thesis study area. On the following page, Illustration 32 visualizes different possible states of continuity (and discontinuity) which might lead to heritage valuation in the future. Another key aspect of a living heritage approach is its recognition of a *core community*, or, a primary

¹²⁴ Halifax, "Item No. 15.2.2 Halifax Regional Council," May 14, 2019, <https://www.halifax.ca/sites/default/files/documents/city-hall/regional-council/190514rc1522.pdf>.

¹²⁵ Parks Canada, *Standards and Guidelines for the Conservation of Historic Places in Canada: A Federal, Provincial and Territorial Collaboration.*, Second Edition (Ottawa: Parks Canada, 2010), viii, <https://www.historicplaces.ca/media/18072/81468-parks-s-g-eng-web2.pdf>.

stakeholder group; a core community typical lives and/or works within the site, and they are the contingent of people to whom the site is most important.¹²⁶ This reinforces the importance of the life of the site. While community consultation would typically be a part of the values-assessment process, limitations of time and distance have meant that local and community-based literature (see Appendix C for an annotated bibliography), and personal observations of the site have been used in lieu of active consultation.

Illustration 32: Continuities of Future Heritage

(A) perhaps the most common imagining of future heritage would be attributes which originated in the past, are valued in the present, and might continue to be valued in the future.

(B) attributes which originated in the past, are discontinuous in the present, but in the future might be evoked or acknowledged in an evolved manifestation that recalls its historic past.

(C) attributes originating in the present, which, in the future may come to be recognized for heritage values.

126 Ioannis Poullos, *The Past in the Present: A Living Heritage Approach - Meteora, Greece* (London: Ubiquity Press, 2014).

Illustration 33: St John the Evangelist Anglican Church

Type (A) Future Heritage: A designated heritage structure, dating from the 19th century, this church originates in the past, is valued in the present, may continue to be valued in the future

Illustration 34: Logging Industry on the Sackville Rivers

Type (B) Future Heritage: Originated in the past, largely discontinued presently, but may be evoked through less tangible attributes like the primacy of rivers to life, or local materials

Illustration 35: Potential for the Sackville River Greenway

Type (C) Future Heritage: Originating in the present, may be of value in the future - because of its natural heritage potential, and the ways it will undoubtedly support activity in the community

Application: Thematic Areas & Value-potential

The process of analyzing for potential heritage value began by listing site attributes, ranging from physical features (like St John the Evangelist Anglican Church, or the Little Sackville River), to patterns of life (like transportation from Halifax to Windsor, or the logging industry), to less tangible elements (such as sightings of the river, or relationship to cars). The list was then categorized, and recurrent themes were identified from across the attributes. The identified thematic areas, are, in alphabetical order:

Adaptation, Agriculture, Community, Early Settlement, Economy, Family, Industry, Memory, Natural Ecology, Pre-British Colonization, Recreation/Third Places, Small business/live-work, Transportation, Urban Form, Water, Wood/lumber

Aesthetic-based criteria have been largely avoided in assessing attributes of the study site, as these types of judgements are primarily based in contemporary *Kunstwollen* and are unavoidably subjective. Instead, two methods of evaluation were developed which sought to assess and represent the history and functions of the site. In the first process, each attribute was evaluated for how many of the identified themes (as listed above) it represented; a numeric value was assigned to indicate how strongly each theme was represented by that particular attribute. Narratives of the site are portrayed in attributes which best represent these thematic elements, and which speak to the history and ongoing life of Middle Sackville. The second process evaluated how strongly each attribute would support the realization of the nine community objectives (Illustration 31). This process was used to approximate how well the attribute would align with the functions of a community pursuing these goals – in essence, how might these attributes maintain a positive role in the life of the Millwood neighbourhood in the future.

These evaluation processes identified areas of potential value which should be protected, enhanced, or evoked in the future of the community, but assessment conducted using the above criteria also isolated attributes which might instead be detrimental toward community objectives or the representation of themes. Indeed, the assessment of positive attributes also lead to the recognition of attributes which might best serve the community by being remediated. Examples of unfavourable attributes include: lack of diversity, disconnection of mobile home parks from other neighbourhoods, car use and relationship to cars, and the placement of mobile homes in vulnerable floodplain zones.

Illustration 36: Example Attribute, The Sackville Heights Community Centre

After this former elementary school was replaced by a newer facility, the old building was eventually converted into a much needed community centre. Though outside of the Millwood subdivision, this site is an asset to the entire Middle Sackville community

Adaptation	Agriculture	Community	Early Settlement	Economy	Family	Family Businesses	Industry	Positive: 7
Positive	Neutral	Positive	Neutral	Positive	Positive	Neutral	Neutral	Possible: 1
Memory	Natural Ecology	Pre-British	Recreation/ Third Place	Transportation	Urban Form	Water	Wood/ Lumber	Neutral: 8
Positive	Possible	Neutral	Positive	Neutral	Positive	Neutral	Neutral	Detrimental: 0

Illustration 37: Example Thematic Value-potential Assessment

The community centre does not directly address many of the thematic categories identified, but it does not undermine any -making it a positive attribute in the themes it does represent

Flooding Considerations	Walkability/ Transportation	Community Identity	Built Heritage	Social Equity	Business/ Economy	Land Use Intensification	Sustainability of Buildings	Natural Heritage
Neutral	Positive	Positive	Positive	Positive	Neutral	Positive	Positive	Neutral

Illustration 38: Example Community Objective Assessment

Many of the community objectives are directly addressed by the Sackville Heights Community Centre, making it a very positive attribute toward the future

Intangible and Discontinuous Values

Much of the early history of the study site is either largely discontinuous or has very few tangible traces. The question becomes how to adequately uncover, respect, and represent these invisible and interrupted histories.

There is little information about Mi'kmaw land use in the Sackville area (most available information relates to the mouth of the Sackville river in Bedford). Relationship to the Sackville River Valley is one of Historic Mi'kmaq land and resource use, which "occurred before living memory."¹²⁷ Indeed, "over generations of cultural and political suppression, much Mi'kmaq knowledge has been irretrievably lost."¹²⁸ Similarly, Acadian patterns of use in the Sackville River Valley are not physically evident. However, these relationships are important to the history of the site and speak to larger narratives of erasure across Nova Scotia.

Physical attributes which relate to these pasts include: the river systems and other natural heritage features, physical access to the Bedford Basin and the route through the Sackville River Valley. Less tangible attributes might have to do with travel and transportation, seasonal engagement of the site, and the primacy of the rivers to patterns of life.

Illustration 39: The Little Sackville River has tangible and intangible values

The river systems have physical and natural heritage value in the present - but this attribute can also speak to less tangible histories, and patterns of use over centuries

127 CMM Environmental Services and The Confederacy of Mainland Mi'kmaq, "Mi'kmaq Ecological Knowledge Study: Highway 107 Sackville to Porters Lake," 2010, 11, https://novascotia.ca/nse/ea/highway-107-burnside-to-bedford/Appendix_I-K.pdf.

128 CMM Environmental Services and The Confederacy of Mainland Mi'kmaq, 17.

Chapter 7:

Design Approach

“In all the cities that now are almost suffocatingly stable in the center and alarmingly unstable at the periphery, you could introduce a new condition of phasing in which, sooner or later, any part of the city would be eliminated to be replaced by other development.”

- *Preservation is Overtaking Us* (2014), Rem Koolhaas

Introduction

“We need both incremental changes and instant cities in order to reshape socially and environmentally destructive sprawling patterns.”¹²⁹

The development of Community Objectives and potential intervention programming reaffirms the multi-scalar, multi-faceted nature of needs in the Millwood neighbourhood. The analysis of heritage values identifies areas of possibility, vulnerability, and potential for improvement; assessment of current and potential value areas positions intervention in the present as the linchpin between the site’s past and prospective heritage. A design approach for rehabilitating Millwood as a site for future heritage must address the community’s range of scales and diverse needs, as well as the value potential of the site across multiple temporalities. Only within the context of an overarching approach can it be ensured that smaller, individual interventions will work toward big-picture objectives. The design proposal components for Millwood may be considered under two main categories – those of *infrastructural* and *incremental interventions* – to address the site at levels of both its systemic and small-scale challenges. This analysis culminates in a series of design guidelines, both at the scale of the community and the building, which outline the ways that discrete projects can support an overall framework for the future of the community.

Phased Infrastructural Interventions

Retrofitting Suburbia draws a distinction between fully planned communities — or ‘instant cities’, as often seen in New Urbanist development – and *incremental urbanism*, the type of growth patterns reflected in the evolution of many historic cities. Rehabilitation which considers an entire suburb, Dunham-Jones and Williamson argue, can use an incremental approach, but at “a scale far more capable of confronting the problem of sprawl.”¹³⁰ Infrastructural interventions, as proposed in this thesis, would entail major public projects, often systemic in nature or existing across contiguous parcels of land. Within Millwood, these might include road dieting or redesign, planning for major community spaces, or the implementation of the Sackville River Greenway. A phased approach for infrastructural interventions is recommended based on the sequencing of project construction, prioritization of needs, and level of severity of interventions (see application of this approach in

¹²⁹ Dunham-Jones and Williamson, *Retrofitting Suburbia*, 14.

¹³⁰ Dunham-Jones and Williamson, *Retrofitting Suburbia*, 3.

Chapter 9). The realization of infrastructural interventions is challenging in that they require tremendous levels of political will, capital, community consensus, and coordination.¹³¹ Numerous entities must be involved to get infrastructural projects off the ground. However, high-level planning is imperative to facilitating largescale change, and to maximizing the full advantage of small-scale rehabilitations.

Incremental Interventions

Incremental interventions may be more easily implemented; this type of intervention might include rehabilitations to one or more existing buildings, landscaping projects in discrete greenspaces, or new build infill projects. These small-scale changes might be among the first to be implemented in a neighbourhood, and more directly reflect the historic morphology of many built environments. Particularly, in the early stages of rehabilitating an auto-oriented residential subdivision, instances of *gentle density* might be more palatable than projects introducing largescale urban infrastructure. The key limitation of this approach is that it cannot address community-scale challenges in the same way that infrastructural interventions may. Additionally, built interventions will often require rezoning, and other planning measures which take effect at the scale of the neighbourhood. Furthermore, the overall efficacy of introducing incremental interventions could be impeded by private land ownership. Though it would be more complicated to realize, efficacy of interventions could be improved by multi-parcel tactics.

For several reasons, the split-entry house type has been chosen as the main subject for intervention design proposals. This type is perhaps the single most prevalent built form in the Millwood subdivision. Many of the older Millwood homes, which are now reaching ages of increased maintenance and repair needs, are split-entry houses. This form produces a lower density compared to homes with narrower footprints, which tend to be situated on more compact lots. The performance of this home type leaves much room for improvement – from building envelope design (including prevalence of thermal vulnerabilities), to builder grade materials and features, to their prevalent use of inefficient electric heating. Another key challenge of this house type is that unlike bungalows or mobile homes, the built form almost entirely precludes accessibility. In Chapter 10, specific instances of these homes have been selected to demonstrate possible interventions to split-entry houses.

¹³¹ Dunham-Jones and Williamson, 3.

Community-scale Design Guidelines

Design guidelines have been developed to direct future interventions toward supporting the community objectives, and respecting the heritage value-potential of the site.

1) Prioritize the potential of what is already there – engage and improve upon the best attributes of the existing neighbourhood, while meeting broader sets of community needs

2) Protect and enhance natural heritage

2A) Daylight canalized river sections, and rehabilitating river crossings which impede water flow. Provide adequate distance between new development and water sources.

2B) Introduce new construction, agriculture, and recreation for increased land use intensification in the low density community. Designate zones for natural conservation.

3) Retain existing trees, prioritizing the preservation and restoration of larger ecosystems

3A) Mature trees should be retained wherever possible. However, removal of trees within the subdivision is preferable to extending the built-up periphery. Prioritize protection of the wooded areas at the north of the site, and provide recreation spaces at the lakes.

3B) Plant native species of trees, particularly along roadways where mature trees are lacking, to shade active transportation and enhance the character of the neighbourhood.

4) Support the health of the river system, prioritize flood prevention and mitigation measures, and respect and improve the health of the floodplain zone

4A) Introduce appropriate uses, like agriculture and recreation, into the designated floodplain. Recreation spaces, like parks and greenways, may be best placed close to the river.

4B) Where hardscaping is introduced or updated, consider using permeable surfaces to lessen impacts of stormwater surges. Use landscaping techniques to cope with excess water, including rainwater collection systems and rain gardens.

4C) Consider the relocation or demolition of structures in the floodplain. Parcels only partially in the floodplain might be managed with landscape interventions. Mobile homes near the floodplain might avoid future flood damage by raising the level of the home.

4D) Create river crossings where necessary, ensuring that new bridges do not impede water flow, with piles and footings designed to minimally disrupt the river system.

5) Design for walkability, and accommodation of active transportation and public transit; reduce the role of the car in community life and urban form

- 5A) Place destinations centrally, within walking or cycling distance of many residents.
- 5B) Create pedestrian connections between all parts of the community, including pedestrian -safe road crossings. Increase the network of dedicated pedestrian and cycling routes. Prioritize equitable access to active transportation routes. Address overly steep existing pedestrian walkways in the neighbourhood.
- 5C) Design comfortable and appealing active transportation routes with ample shade, interesting plantings, and a strong sense of safety relative to roadway traffic.
- 5D) Provide – but do not prioritize – parking throughout the community. Short stay parking, and accessible spaces should be provided near commercial and community amenities.
- 5E) Plan convenient and safe public transit stops in the neighbourhood, and pursue a transit station for Middle Sackville. Ensure adequate roadway crossings at every transit stop.

6) Introduce a variety of functions which support the life of the community, engage a local economy, and provide much-needed third places

- 6A) Designate mixed use areas for commercial amenities and professional services, to create job opportunities and reduces vehicle miles travelled. Place storefronts near walkways to support business visibility, and create engaging streetscapes for residents.
- 6B) Provide third places, where both young and elderly residents may feel welcome. Develop community spaces for recreation and activities, including indoor activity spaces, new and invigorated outdoor spaces, and possibly a branch of the Halifax library.

7) Make Millwood a neighbourhood which can welcome diverse households, and design for improved community engagement

- 7A) New housing and rehabilitation of existing homes should prioritize variety of dwelling size and price range. Rental options will attract households from different age and socio-economic demographics. Provide accessible dwellings to support a more inclusive neighbourhood, and give current residents options for aging in place.
- 7B) Design new construction for improved 'eyes on the street' to support a sense of safety and community; this may include front porches, or other means to support a stronger engagement between houses and their streets.

Building-scale Design Guidelines

Principles which may guide the design of built interventions within the study area have been outlined below. The intention behind these guidelines is to give a language for new architecture which has a dialogue with the existing built fabric, while also establishing its own relationship with the landscape and vernacular traditions of the site.

Built Form

- 8) Make gestures toward the landscape wherever possible. Design new interventions to embrace, and take advantage of the site's hilly topography
- 9) Newly introduced massings should be compatible with low-rise neighbourhood scale. Allow existing suburban grain to remain legible, even while intensifying the community's low density form.
- 10) Allow for access to outdoors and/or greenhouse spaces with all residential dwellings; legibly distinguish front entrances to dwellings, and provide private entrances where possible.
- 11) Utilize a language of building form which speaks to the programming of its interior spaces:

11A) Residential: gable slope, similar to that of existing split-entry homes .

11B) Commercial/mixed use: flat roof, like most purpose-built commercial spaces.

11C) Community: per New Urbanism, should have a 'distinct form' indicative of role in the neighbourhood.

Illustration 40: Commercial versus residential rooflines

- 12) Draw connections to existing built forms wherever possible, including:

12A) Rooflines and eaves reappearing as datum lines in new designs;

12B) Width and spacing of existing dwellings being echoed in the size and placement of new building footprints;

12C) Deriving window placement or axes of symmetry from existing designs.

Illustration 41: Dialogue between new and existing rooflines

- 13) Pick up on vernacular addition types, and evoke these in contemporary interventions; these may include presence of south-facing sunrooms, the prevalence of covered porches on pre-subdivision homes, and patterns of additions to detached homes, converting them to multiple dwellings.

Illustration 42: Presence of covered front porches on early homes

Illustration 43: Pattern of south-facing sunroom additions on historic homes

Illustration 44: Formerly detached houses, converted to two-units with addition

Materiality of Interventions

14) Use of wood wherever possible – environmental benefits, ability to be sourced locally, speaks to logging industry past, and vernacular traditions of building.

14A) Light timber in typical residential construction, use of heavy timber or CLT in non-residential, or larger spaces where these elements can be exposed.

14B) All new additions, and re-clad existing dwellings use different vocabulary of wood cladding. Vertically oriented cedar cladding for new construction; rehabilitated existing Millwood-era homes to be clad horizontally in cedar, replacing existing horizontal vinyl;

Illustration 45: Cladding for eras of construction

and, pre-Millwood homes being retrofitted should be clad in cedar shakes – few of these homes still have this type of finish, but it would have been common in the pre-subdivision era.

15) New windows should relate to the program, the plan, and the construction era of a building.

15A) New interventions, with vertical cladding, will typically feature vertically oriented windows; new windows in existing buildings will retain existing apertures, or be horizontally oriented.

15B) Hardware of newly introduced windows should be minimal, and legibly contemporary as an indication of their age. A language of darker window frames will read as distinct from existing white vinyl window types.

Split-entry homes

16) Utilize grade change to create accessible entrances to non-accessible buildings.

17) Retain elements which support the character of existing homes, like non-functional shutters, feature windows, and brick cladding accents.

18) Address inadequate building envelope design, particularly low R-values and thermal vulnerabilities of cantilevered floors.

19) Replace electric heating with more efficient systems; multi-parcel rehabilitations may utilize campus-style heating.

Illustration 46: Building envelope deficiencies of split-entry homes

Community and Public Buildings

20) Design public buildings to be inviting to community members.

20A) Form should demarcate use, particularly that of community buildings.

20B) Clearly mark public entrances, use these as celebratory moments in larger buildings.

20C) Design for optimal accessibility of all community facilities and other public spaces.

20D) Design for literal and figurative transparency; use glazing where appropriate to communicate interior programming, and create relationships with the street and other exterior spaces.

20E) Large spaces provide opportunities to use expressive structural forms and high-quality materials; these should be designed for flexibility of both current and future use.

21) Create a localized expression, responsive to its context. Design sites – not just buildings.

21A) Exterior spaces are as important for community life as indoor facilities. Pay special attention to exterior access and the creation of usable, inviting outdoor spaces at all community sites.

21B) Design for conversation with the landscape; form and massing should be compatible not only with surrounding buildings, but with the topography and other geographic features.

21C) Be deliberate in accommodating and framing sightlines to natural features.

21D) Develop a dialogue with vernacular forms, details, and materials whenever possible.

21E) Be deliberately contemporary in all aspects building design; clean lines, strong geometries, and minimalist detailing support the legibility of a twenty-first century aesthetic.

22) Design for sustainable building performance and occupant health.

22A) Create appealing vertical circulation which encourages building users to take the stairs when they can.

22B) Make optimal use of solar orientation in daylighting and other passive considerations.

22C) Use additions to existing buildings as opportunities to improve their performance.

22D) Engage outdoor spaces for flood resilience and suburban agriculture.

Part II Summary

The development of an approach for the site has been a process of integrating site-specific information with principles from literary theory. On-site survey was essential in: establishing study site boundaries which captured Millwood's relationship with surrounding subdivisions and neighbourhoods; conducting a typological study of the area, and beginning to analytically assess its unique features; and, identifying areas where design interventions would have the most significant impact.

The community objectives, developed pairing New Urbanist principles and site-specific considerations, were instrumental in guiding programming and design approaches. They offered a window toward what the future life of the site might look like should all these goals be earnestly pursued. Heritage valuation focused around thematic areas – which might eventually be valued parts to the site's history – along with assessment of how well site attributes would support the future life of Millwood which is suggested by the community objectives. Most of the clearly valuable aspects of Millwood related to the river, and other natural heritage potential. Though Millwood, in many ways is a non-heritage site, a heritage character statement for the neighbourhood was developed as a way of synthesizing the heritage valuation process (see Appendix D).

Planning at the community scale, combined with built interventions at the scale of individual sites, is an approach to redevelopment which can facilitate major change, whilst retaining a sensitivity to the current life and form of the community. Echoing the interrelation of urban scales in planning for the future of suburbs, neither infrastructural nor incremental interventions alone can adequately propose complete design solutions for existing communities. Combining small-scale interventions with the strategic phasing of neighbourhood-wide interventions, a multi-scalar design proposal may provide appropriate 'baby steps' in urbanization. Design guidelines, both at the scale of the community, and the scale of the building, have been developed to direct new interventions. In the third section of the thesis, examples of design interventions at each of the three scales of New Urbanism are explored, building on the approach established within this section.

PART III:

Intervening through Design

Chapter 8: The Region

“Redevelopment of towns and cities should respect historical patterns, precedents, and boundaries.”

- *The Charter of the New Urbanism* (1996)

Introduction

Suburban interventions at smaller scales should be situated coherently within a larger, long-term plan for the site. Analysis at the scale of the region is an opportunity to contextualize the site in a wider landscape; to look at the entire identified study area, its connections to the rest of Sackville, and its place within the Halifax Region. Research at these scales supports the development of a series of future zoning considerations which constitute the design interventions at this scale.

Sackville in the Halifax Region

Lower, Middle, and Upper Sackville (plus adjacent communities Beaverbank and Lucasville) have a combined population of over 40,000 residents – constituting about 10% of metropolitan Halifax.¹³² Sackville is an edge condition of the Halifax Region, and most of the community is situated between 15 and 25km radii from the centre of the urban core (see Illustration 47).¹³³ Sackville's auto-oriented neighbourhood configuration is denser than most of the exurban and rural communities located at a similar distance from the urban core. Sackville's strategic location, with convenient commuting distances to both Halifax and Dartmouth, means that improvements to public transportation services could facilitate the community's transition to a transit-oriented neighbourhood. These factors position the community as a strong candidate for suburban rehabilitation.

The Sackville rivers system is a regionally significant feature; "both the Sackville and Little Sackville Rivers are considered urban rivers, having both historical and present development and degradation along their banks."¹³⁴ Most of the built-up Sackville area is within the watershed of the Sackville rivers – including all of the Millwood study site. The Sackville River finds its source just outside of the Halifax region, while the Little Sackville River originates in the northmost portion of the study site at Feely and Little Lakes.¹³⁵ Health of the river system has been undermined by suburban development in Sackville, while proximity to the floodplains of these rivers poses a threat to existing homes.

132 Statistics Canada Government of Canada, "Census Profile, 2016 Census - Halifax, County [Census Division], Nova Scotia and Nova Scotia [Province]," February 8, 2017, <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CD&Code1=1209&Geo2=PR&Code2=12&SearchText=halifax&SearchType=Begins&SearchPR=01&B1=All&TABID=1&type=0>.

133 Following a suggested system for analysing central versus peripheral neighbourhoods within a CMA, as per Martin Turcotte, "Canadian Social Trends: The City/Suburb Contrast: How Can We Measure It?," Statistics Canada, 2014, <https://www150.statcan.gc.ca/n1/pub/11-008-x/2008001/article/10459-eng.htm>.

134 McCallum Environmental Ltd., "The Evaluation of Wetland Restoration Potential within the Sackville River Secondary Watershed," 2013, 2, https://novascotia.ca/nse/wetland/docs/Wetland_Restoration_Potential_in_the_Sackville_River_Watershed_Pages1-60.pdf.

135 EDM and Gordon Ratcliffe Landscape Architects, "Sackville Greenway Multi-Year Development Plan."

Illustration 47: Sackville in the Halifax Region, Canadian Suburbs Neighbourhoods

The Sackville area is a unique edge condition of the Halifax region, because of its auto-oriented density levels. Apart from Sackville and Fall River, all other communities farther than 15km from Halifax city hall are of an exurban density

Illustration 48: The Sackville River System and study site in the Halifax Region

Lower and Middle Sackville

Middle Sackville is situated between the more commercial Lower Sackville, and the more rural Upper Sackville. Illustration 49 shows that most of the non-residential uses in the study area are community amenities – largely schools and churches. Most commercial amenities are located in Lower Sackville, and the easiest way to access them is by car. Beyond the walking distance from Middle Sackville to necessary amenities, there is also a question of walkability. Pedestrian or bicycle travel along Sackville Drive and Beaverbank Road is neither safe nor engaging. Sites of pedestrian collisions during 2018-2019 are indicated in white on the map shown in Illustration 49.¹³⁶

Transit is also a challenge for those living in Middle Sackville. Recent changes to bus service provide greater transit coverage through the community, but reduced frequency of service means that travelling to, from, or around the study area outside of peak hours is extremely inconvenient.¹³⁷ Two express transit locations have been identified as future options for Middle Sackville, these being a proposed new bus terminal at the Margeson Road exit, and the possible conversion of an existing rail line to the north of the site for use as a commuter rail service. In addition to quality of service, certain socio-economic and built environment factors have been found to impact transit ridership. A 2018 study for the Canadian Urban Transit Association found that low population density and “suburbanization are postulated to contribute to transit ridership reduction,”¹³⁸ while proportion of renters and other population characteristics reflective of socio-economic diversity relate to increased transit ridership.¹³⁹

To have adequate public transit in the community, Middle Sackville needs improved access to transit, express options which can compete with a car commute, and increased frequency of service. Safe and convenient active transportation and public transit are not realities for the Millwood community. Access to amenities is a challenge for populations who do not drive – and often this will disproportionately affect vulnerable peoples, such as the old, the young, and the economically disadvantaged within a community. Walkability, cycling infrastructure, and quality public transportation are not just neighbourhood niceties – they directly relate to issues of social equity.

136 O'Connor, “VEHICLE / PEDESTRIAN COLLISIONS,” December 2019; Heather O'Connor, “VEHICLE / PEDESTRIAN COLLISIONS” (Halifax Regional Police, December 2018), https://www.halifax.ca/sites/default/files/documents/fire-police/police/October%20Report%202019_RevisedFinal%20%28002%29.pdf?fbclid=IwAR1FSeHNWbv2ySv1p_rkarnh-73KmmZuHq0IKbmiPRk_AyLs_7iLRspJZVg.

137 Halifax, “Routes & Schedules,” Halifax Transit, accessed March 11, 2020, <https://www.halifax.ca/transportation/halifax-transit/routes-schedules>.

138 Eric J. Miller et al., “Canadian Transit Ridership Trends Study” (Toronto: University of Toronto, October 2018), 4.1, https://cutaactu.ca/sites/default/files/cuta_ridership_report_final_october_2018_en.pdf.

139 Miller et al., sec. 4.2.

Illustration 49: Amenities and Transportation in Lower and Middle Sackville

Map of Lower and Middle Sackville. Highlighting public transportation, commercial and community amenities, and the location of pedestrian collisions of the past two years. All against the backdrop of the Sackville Rivers watersheds

Proposed Zones for the Study Site

The following pages outline proposed revisions and considerations for new future zoning, in support of redeveloping the community toward the objectives set out in Chapter 5. Below, in Illustration 50, the left map demonstrates current municipal zoning for the Sackville community, while the right map is more indicative of the study area's as-built status. The most jarring difference between these two images is perhaps the level of presently undeveloped land which is earmarked for future residential development.

“To meet the sustainability objectives of today, suitably giving value to the aspects of the suburbs that were successful is as important as allowing for change in other areas.”¹⁴⁰

Illustration 50: Municipal Zoning (left) and approximate as-built conditions (right)

140 Ross, "How Green Was Canadian Modernism? How Sustainable Will It Be," 70.

Community and Commercial Amenities

Three sites offer potential for future mixed-use zones. These are the area around Margeson Road (B), which has been municipally earmarked for a grocery store, arts centre, and bus terminal. However, these are expected to be constructed across the highway from moderate density developments at Sunset Ridge. The Middle Sackville portion of Sackville Drive (C) combines private dwellings, small businesses in converted houses, and numerous car dealerships. Much of the street is already commercially zoned, but it underperforms in this capacity. Millwood Drive (A) has seen increased volumes of traffic following the opening of the Margeson Road highway exit and has several pedestrian problem areas. Millwood Drive is a strong candidate for introducing amenities to the subdivision, and its configuration requires rehabilitation for improved safety and functionality. Community facilities within the study site are limited; most community activities occur at operational schools, churches, or in outdoor spaces.

Illustration 51: Proposed areas for mixed use and other amenities

Millwood Drive, suburban corridor

Margeson Road near Highway 101

Sackville Drive at Beaverbank Cross Road

Built and Natural Heritage Potential

The study site includes two municipally designated heritage sites: St John the Evangelist church and the Lindwood House, both dating from the 19th century. Other structures like the Sackville Baptist Church or early homes might have designation potential. Older homes have been maintained to varying degrees, and their historic value is not always readily apparent. Remnants of evolved lumber yards and agricultural sites are rare, but still present in the study area. Sites with natural heritage potential include the Little Sackville River, scattered pockets of wetland ecologies, and mature wooded areas surrounding (and within) the study site. These areas would require active conservation and rehabilitation. Recreation areas might be engaged in areas worth protecting from suburban development, but which do not have the same type of sensitive environments as those earmarked for active conservation.

Illustration 52: Areas of built and natural heritage interest

Mature wooded areas

Pre-Millwood Early Subdivision on Judy Avenue

Pre-subdivision home on Connolly Road

Flooding Vulnerabilities:

Risk of flooding affects homes at low elevations near the banks of the Little Sackville River. The majority of these homes are located in the Sackville Estates mobile home neighbourhood (G). Homes pre-dating the 1980 floodplain study are located within its limits, while some post-1980 homes have found themselves now within floodplain boundaries following the 2017 study. Per the community guidelines, homes within these vulnerable areas should be considered for removal.

Illustration 53: Areas of Flooding Vulnerabilities

Sackville Estates Mobile Homes

Homes adjacent to the floodplain

Homes in the floodplain, Early Millwood

Priorities for Residential Rehabilitation:

Residential rehabilitation potential was gauged by age and density of existing homes. Prioritized for first phases of rehabilitation are early Millwood homes, and other neighbourhoods of similar (or older) age (J). These tend to have large lot sizes, and homes reaching an age where they require increased maintenance and repair. One example of a more recent street being prioritized is the exurban density at Lindforest Court (K), which, while not very old has lot sizes completely incongruent with a walkable community. A second phase would look at post-Millwood construction. While some Late Millwood development brought more compact home designs on smaller lot sizes, detached homes in the Twin Brooks subdivision have brought a return to larger footprints and larger lots (L).

Illustration 54: Residential areas for phased rehabilitation projects

Phase 1: Early Millwood, low suburban density

Phase 1: Exurban density on Lindforest Court

Phase 2: Low suburban density in Twin Brooks

Chapter 9:

The Neighbourhood

“You could begin to plan the city in terms of phasing... You could project and plan over almost millennia to generate a situation in which each part of the city would always confront its opposite in a kind of complementary condition.”

- *Preservation is Overtaking Us* (2014), Rem Koolhaas

Illustration 55: Neighbourhood Section through design proposals (1:500)

Introduction

Building from the zoning revisioning laid out in Chapter 8, a design sub-site was selected. Since the introduction of amenities is a major step toward addressing numerous community objectives, the sites identified in Illustration 51 were the prime candidates for a design focus area. A portion of the community located around Millwood Drive at Millwood Common was selected because its very 'typical' suburban character best responds to the thesis question, and its convergence of zoning considerations means this site offers opportunities to design for aspects of all the community objectives and programmatic areas as per Chapter 5. The sub-site is a general area for scope, within which a section cut is used to elaborate on a range of specific design approaches. Within this chapter, infrastructural interventions and proposals

for public spaces are outlined at a schematic level. The creation of a sense of place, and indeed fostering future heritage potential, largely hinges on the public life of the site. Developing quality public spaces where activities of everyday life may occur will increase community engagement and support stronger connections between the residents and the site.

"Place is something to which social identity can be attached... The aesthetics of place create particular, local meanings, so there is a demand for those qualities that make places distinctive and give them a unique symbolic value."¹⁴¹

Attributes and Issues

All key issues identified for the study site have instances within the Millwood design sub-site: flooding and environmental remediation, pedestrian safety challenges, limited transit/active transportation opportunity, lack of diversity in the programming and form of the built environment, and the limited visibility and access to the Little Sackville River. Key areas of value in the design sub-site include a large portion of the Little Sackville River, floodplains, and mature wooded areas. Millwood High School (A) is a community feature. Presence of a seniors' residence (B) and housing co-op (C) are unique for Sackville as a whole, let alone the study area. Barrett's lumber (D), and a few bungalows (E) near Beaverbank Road constitute the earliest features of built heritage. Most homes in this area are of Early - Late Millwood construction, with some of the recent Twin Brooks subdivision at the northwest corner (F). Infrastructural interventions are the physical framework that allows for largescale neighbourhood change. In Illustrations 58-60, three phases of planning for infrastructural interventions are outlined.

141 Tim Brindley, "The Social Dimension of the Urban Village: A Comparison of Models for Sustainable Urban Development," *Urban Design International* 8, no. 1/2 (June 2003): 53-66.

Millwood High School

Barrett Truss and Building Supplies

Millwood Place Seniors' Residence

A pre-subdivision home on Millwood Drive

Crossroad Non-profit Housing Co-op

Recent construction in Twin Brooks

Illustration 56: Built features of the design sub-site, section line(1:10,000)

LSR Crossing behind Millwood High School

Millwood Common park, high school beyond

Roadway over LSR, Millwood Drive

LSR culverted at Millwood Drive roadway

Crossroad Non-profit Housing Co-op

Jackladder Brook canalized at Millwood Drive

Illustration 57: Landscape features of the design sub-site, section line (1:10,000)

Phased Infrastructural Interventions

Neighbourhood-scale changes to systems and public spaces offer opportunities to make important shifts to the programming and form of the subdivision. Infrastructural interventions are imagined for the design sub-site in three sequential phases, as depicted in Illustrations 58-60. A crucial early move is to protect, and appropriately intervene in the floodplain zone. Realistically, intervention in this site should be developed as part of a larger plan of the entirety of the Little Sackville River watershed. For the purposes of this proposal, the design strategies have focused on remediating impediments and activating the floodplains with approved programming within the scope of the sub-site only.

Components of the Phase 1 Interventions:

(N) Rehabilitation/road diet of Millwood Drive: (see pages 102-105 for schematic design proposal) this change to infrastructure will support future mixed-use programming in the site. Redesign includes stormwater management strategies in the adaptation of this suburban corridor into a mixed-use main street which is comfortable and welcoming for pedestrians.

(O) Sackville River Greenway: a portion of greenway similar to an existing proposal for future realization within the site is included in the first phase of infrastructural change. The Sackville River Greenway Multi-Year Development Plan outlines path placement, along with schematic proposals for which types of trail would be appropriate along the course of the Little Sackville River. Through the marshy conditions of Millwood, a boardwalk style active transportation way will be least disruptive to existing wetland ecologies.¹⁴²

(P) Removal of elements: including the removal of houses within the floodplain, and a portion of Millwood Drive which is obstructive to the Little Sackville River (see Illustration 57, points I and L where the river is diverted into a series of culverts). These features are observed to be detrimental to the long-term health of the river system. Also slated for removal are recreation sites at Millwood Drive, which would be relocated nearer to the river and the greenway system, making space for mixed-use construction on the buildable land near to the roadway.

(Q) Phase 1 Addition to Millwood High School: (see pages 94-101 for schematic design proposal) an addition at the rear of the schools is proposed to facilitate population growth in the neighbourhood, which will be further increased by intensification and gentle density projects (see Chapter 10). Ideally, spaces would be designed flexibly to accommodate community functions

¹⁴² EDM and Gordon Ratcliffe Landscape Architects, 34-36.

outside of school hours. The addition footprint hugs close to the extents of the existing building, to give adequate distance from both the 20- and 100-year floodplain perimeters.

(R) Designation of conservation, cultivation, and recreation areas: further study would be required to appropriately identify areas for protection and programming. Based on existing reports, approximate potential usages have been proposed. Conservation zones should be implemented immediately adjacent to waterbodies and in known wetland areas. Other sites, such as maturely wooded areas or the courses of smaller brooks and creeks might also be appropriate to designate for preservation. Recreation areas have been earmarked mostly near to the river conservation zone. This would include active transportation like the Greenway, and spaces designed for play, sport, and other activities. Cultivation refers to small-scale suburban agricultural initiatives like community gardens or producers for local markets. These activities can be permitted within the designated floodplain, moreover, they support community building and resilience, and pertain to the agricultural past of the site.

(S) Introduce/test pilot laneways: (used in Chapter 10 proposals) laneway are often used in suburban retrofits.¹⁴³ These can support increased density, and allow road design to reallocate some of the excessive space which has been allotted to automobiles. The first place for introducing laneways would be recommended behind the homes on the north side of Millwood Drive. This move would further support the ability of Millwood Drive to take on commercial capacities, giving a more private access to these structures from the lane, while adapting the street-facing sides for more public functions.

Components of the Phase 2 Interventions:

(T) Implementation of new roadways: following the removal of the Millwood Drive segment which impedes the Little Sackville River, this proposal suggests installing two new roadways in its stead. At point T, a connection from Millwood & Jackladder to Beaverbank Cross Road would be made including a bridge over the river which will be much more sympathetic to the river than the current crossing. This option was determined to be preferable to replacing the current Millwood crossing of the river with a bridge for two reasons, (1) Millwood Drive between the river and Beaverbank Road also has some very dangerous low-visibility areas so that increasing traffic along that route would not be recommended, and (2) the removal of the existing roadway and the opening of the new bridge might be timed so that the route is never discontinuous.

¹⁴³ Dunham-Jones and Williamson, *Retrofitting Suburbia*.

(U) Engaging a further network of active transportation pathways: building off the existing Greenway proposal to imagine more walkways which might be introduced near to the river and other water bodies. This would help to create more pedestrian connections through the community and serve to better engage the natural heritage of the site.

(V) Inhabiting cultivation and recreation areas: introducing programming into the spaces which had previously been earmarked for these functions.

(W) Apply road diet to secondary roadways: these include Beaverbank Cross Road, which, while not needing to be adapted for commercial functions, can still be redesigned to better facilitate active transportation and pedestrian safety. The design includes stormwater remediation, and generous active transportation ways on both sides of the street. Special attention is also given to intersections, introducing more easily visible, safe crossings.

(X) Introduce extended system of laneways: following the pilot project between Millwood Drive and Mulley Court, laneways might next be implemented in the Waterwheel and Noria Crescent area of the neighbourhood. These are among the earliest Millwood streets, and many of the homes here may be well suited to adaptation.

(Y) Secondary addition to Millwood High site: another addition is proposed for Millwood High School, but this one would be entirely dedicated to community functions. Community amenities like libraries, community centres and other resources are already underserved in the Sackville area – and with population growth, these needs will only become more pronounced in the future. This addition would face onto Millwood Drive, and help to bridge the topographic divide between the roadway and the Millwood Commons area. Massing and footprint as proposed are entirely gestural at this stage of development, only acting to suggest ways in which a structure might be used to facilitate these connections.

(Z) Implementation of mixed-use/commercial zone at Millwood Commons: a mixed-use node along the commercial main street of Millwood Drive would be developed at Millwood Commons. Inspiration for these blocks would be drawn from the Hydrostone (a heritage neighbourhood which seamlessly combined commercial and residential needs) and the Village at Dartmouth Crossing (a contemporary shopping district which incorporates a river system, and evokes a traditional main street feel). Introduction of retail and office spaces would greatly support community objectives, and moderately sized mixed-use structures will allow for improved intensification.

Illustration 58: Phase 1 Infrastructural Interventions Proposal (1:3,000)

Illustration 59: Phase 2 Infrastructural Interventions Proposal (1:3,000)

Illustration 60: Phase 3 Infrastructural Interventions Proposal (1:3,000)

Illustration 61: Additions to Millwood High School (1:1,000)

Millwood High School

Intention: two-phased proposal for additions, the first of which would increase school capacity, and the second would create a dedicated community space - possibly a branch of the Halifax Public Library.

PHASE 1: Community literature suggests that existing schools might be used for community functions.¹⁴⁴ A new addition to Millwood High should be able to accommodate increased school attendance, while being flexible enough to host community activities. The design of this addition would be located at the rear of the existing building and would offer opportunities to rehabilitate portions of the existing structure.

PHASE 2: The Sackville branch of the Halifax Public Library is already underserved;¹⁴⁵ a Middle Sackville branch would be a wonderful addition to the Millwood neighbourhood. This addition would be situated along Millwood Drive, connecting the existing school to the roadway.

Illustration 62: Proposed Millwood High program distribution

Illustration 63: Front entrance of Millwood High, Sept 2019

Illustration 64: Millwood High South-facing sides, March 2020

¹⁴⁴ Halifax, "Middle – Upper Sackville & Lucasville Vision," 2009, 7, <https://www.halifax.ca/sites/default/files/documents/about-the-city/regional-community-planning/MiddleSackvilleFinalVision.pdf>.

¹⁴⁵ Stantec, "Quantifying the Costs and Benefits of Alternative Growth Scenarios: Halifax Regional Municipality, Nova Scotia, Final Report," 2013, sec. 6.13, <https://www.halifax.ca/sites/default/files/documents/about-the-city/regional-community-planning/HRMGrowthScenariosFinalReportJuly82013.pdf>.

Illustration 65: Massing diagram for Phase 1
Addition to Millwood High at rear of school

Application of Design Guidelines (DGs):

Design for the Phase 2 addition is a preliminary massing only; the main intention behind the proposed volume is to better connect the existing high school site with Millwood Drive, and to encourage foot traffic toward the River Greenway. The Phase 1 addition has been further developed to demonstrate the application of design principles and guidelines for a largescale community building.

The programming in both phases may introduce third places and encourage community engagement (6B). The second phase intervention embraces topography in building level change, while the Phase 1 addition creates a dialogue with the landscape through its shed roof and stepped forms which evoke the slope of grade (8, 21B). Large public spaces would be an optimal place to use expressive CLT structure (14A, 20E).

Illustration 66: Diagrammatic section showing
both Phases of additions to the existing school

Illustration 67: Perspective of Phase 1 Millwood High Addition

The Phase 1 addition draws datum lines from the heights of the existing school to derive the two points of its shed roof, a form which is sympathetic to the vernacular yet distinguishable from the gable construction typically used for residential buildings (9, 11C, 12A, 20A, 21D). In plan, the length of the addition aligns with the main volume of the existing school – and is articulated where the new construction abuts the gymnasium volume (12B, 12C). The addition draws from the strong, geometric forms of the existing building and introduces angled lines as a contemporary variation on that theme (12, 21E); this is demonstrated in the roof forms, and in plan where a non-rectilinear line pivots in a gesture toward the Little Sackville River and the greenway trail (9, 21C). The addition is kept very narrow and near to present building footprint, which allows for a buffer area between the structure and the floodplain, where existing mature trees can be retained (4, 3A). Mature trees, a rehabilitated courtyard, and newly introduced plazas and a green roof provide engaging outdoor spaces and opportunities for the integration of stormwater management and other landscaping for flooding resilience (4B, 21A, 22D).

Wood products are used for both cladding and structure where possible, in keeping with design guideline 14; programming is articulated through form and scale – materiality is an opportunity to relate back to the vernacular and the logging history of the site. Glazing is used more heavily in public spaces, and where daylighting may be advantageous (20D, 22B). In keeping with the spirit of design guideline 1, the new addition takes direct inspiration from some of the character defining elements of the existing school. Main entrances are demarcated by heavy, overhanging volumes, relating to the entrances of the original school structure (20B). Circulation spaces are celebratory – and often bathed in natural light – evoking the use of social circulation spaces and skylights as key moments in Millwood High School (21D, 22B). A feature staircase near the main entrance of the addition and a fire stair with views to the river both offer appealing vertical circulation routes (22A).

Wooded setting, strongly geometric form, brick and stone materiality

Backs onto, but does not engage with, the Little Sackville River

Use of skylights, and circulation areas as social spaces

Illustration 68: Character defining features of the existing Millwood High site which might inform future rehabilitations

Illustration 69: Millwood High, Phase 1 Addition, ground floor plan (1:500)

Illustration 70: Millwood High, Phase 1 Addition, Section A (1:500)

Illustration 71: Millwood High, Phase 1 Addition, Section B (1:500)

Illustration 72: Millwood High, Phase 1 Addition,
Interior Perspective of social circulation space

Illustration 73: Millwood Drive Road Redesign (1:500)

Millwood Drive Road Redesign

Intention: to convert the existing suburban corridor into a safe and engaging mixed use main street

Implementation: Process involves redesign existing 20 metre right of way into a main street with the infrastructure to support active transportation and commercial activity. Current walking conditions are limited to sidewalk on one side of the street only, with few marked pedestrian crossings. The proposed reconfiguration would see the current paved two-lane roadway of over 9 metres adapted to accommodate two narrower lanes for travel, as well as a third lane. The allotted space of this third lane, over the course of Millwood Drive, would offer either parking spaces or a turning lane where appropriate. A rain garden planting would act as a buffer between vehicular travel and active transportation. A generous 3.5 metre combined walking/cycling route would be provided on both sides of Millwood Drive. Other features would include comprehensive tree planting, increased frequency of marked pedestrian crossings, and integration of bike parking infrastructure and transit stops along the entire length of the road.

Illustration 74: Millwood Drive existing configuration

Illustration 75: Millwood Drive proposed configuration

Illustration 76: Millwood Drive at Millwood Common, Dec 2019

Illustration 77: Millwood Drive at Kindling Crescent, Sept 2019

Illustration 78: Concept sketch of generous space for active transportation separated from vehicles by rain garden

Illustration 79: Concept for organization of rehabilitated Millwood Drive

Illustration 80: Example of roadway redesign section (1:100)

Application of Design Guidelines (DGs):

The rehabilitation of Millwood Drive addresses numerous aspects of Design Guideline 5, by improving the network of walking and cycling routes in the neighbourhood (5B), inclusion of plantings and design for comfortable and appealing active transportation ways (5C), inclusion of only necessary amounts of parking (5D), and consideration of public transportation (5E). Stormwater management can be improved through use of permeable paving surfaces, and the design of rain garden buffers on either side of the street (4B). Proposal includes largescale planting of native tree species, per DG 3B, which will eventually help contribute to the existing coverage of mature trees. Moreover, while this intervention does not directly introduce commercial or community amenities – it is necessary to support their successful integration into the neighbourhood (6).

Illustration 81: Schematic detail sketch for roadway design

Illustration 82: Schematic detail sketch for roadway design

Chapter 10: The Block, the Street, the Building

“There is little chance that bungalows... or mobile homes will ever become ‘particular treasures of the past’. The alienation they engender is too great.”

- *Pride of Home* (1986),
Joan Latremouille

Introduction

The incremental interventions proposed in this chapter explore adaptation possibilities for the split-entry house type in the Millwood neighbourhood. The physical form of these homes counters the objectives for a sustainable community on a range of levels – not least because the prevalence of the detached, three- to four-bedroom family homes in Millwood limits the socio-economic diversity of the community. In particular, adaptations to the homes might consider housing Canada's

“Who are today's and tomorrow's suburbanites? Exactly what kinds of dwellings do suburbanites live in? What kinds of dwellings might they like the option to live in?”¹⁴⁶

key demographics of Millennials and Baby Boomers, along with Nova Scotia's increased influx of new Canadians. The Millwood community has one seniors' residence, and one housing co-op – but availability of these types of housing does not match demand. Variety in dwelling size, rental options, and accessible dwelling units are all sorely

lacking in the community, while its residential landscape of single-use zoning impedes community and commercial activity in the neighbourhood. The following proposals offer iterative adaptations to the existing split-entry house type. Strategically located commercial additions will support the conversion of Millwood Drive from suburban thoroughfare to mixed-use main street. Residential rehabilitations will increase neighbourhood density, provide rentable units, and improve accessibility in existing structures while respecting the scale of the suburban landscape.

Attributes and Issues

As outlined in Chapter 7, the built form of the split-entry house type presents challenges toward accessibility, building performance, and neighbourhood density. The split-entry's predominance in Millwood's suburban landscape limits the neighbourhood's diversity of population and of function.

Most split-entry homes in Millwood are around thirty years of age, meaning many will require regular maintenance and repair actions – which may be an opportune time to reevaluate their future and improve their function and performance. Some of the prominent features of this house type are listed on the next page.

“Architecture is saved from obsolescence and appears contemporary as it is framed and reframed by preservation as culturally significant.”¹⁴⁷

¹⁴⁶ Dunham-Jones and Williamson, *Retrofitting Suburbia*, 18.

¹⁴⁷ Koolhaas and Otero-Pailos, *Preservation Is Overtaking Us*.

Attributes of Split-entry homes:

- 1.5 story massing – two levels with one partially submerged below grade
- Most living functions can occur on the upper floor – but all homes necessitate stair use. Additionally, non-straight run stairs run reduces ease of adaptability
- Typical make-up has 3 or bedrooms (usually with one downstairs), upper floor living-dining-kitchen, full bathroom upstairs and full or half bath on the lower level, lower level rec/family room
- Use of vinyl cladding with grain texture recalls historic use of wood
- Builder grade materials and detailing; light timber framing structure, concrete foundations, limited insulation, frequent use of exterior overhangs make floors thermally vulnerable¹⁴⁸
- Prevalent use of inefficient electrical heating
- Houses face the street, with no apparent consideration of advantageous solar orientation
- Relationship to Millwood's hilly topography is both a challenge and an asset toward adaptation
- Presence of mature trees
- Most parcels have uncultivated grass lawns
- Diversity in apparent architectural sameness, exemplified in:
 - Central window shape
 - Façade and dormer iterations
 - Use of brick accents
 - Presence of garages/walk out basements
 - Footprint width
 - Addition of decks/front access stairs
 - Position on lot – relative to grade, street

Grade change between houses

Grade change across a house

Spacing, rotation, and solar orientation

Front entrance elevation from grade

Illustration 83: Aspects of house siting which make each intervention unique

¹⁴⁸ Based on observation of existing buildings, and ongoing Twin Brooks construction, affirmed by Canada Mortgage and Housing Corporation, "Energy Efficiency Building Envelope Retrofits for Houses [Electronic Resource]: Exterior Retrofit for 1960s and 1970s Raised Bungalow, 10% or 25% Space Heating Energy Savings."

Illustration 84: Diversity in apparent sameness:
 rooflines, dormers, feature windows

Mixed-use Incremental Intervention

Intention: to facilitate the conversion of Millwood Drive to a mixed-use main street, while retaining/reusing existing dwellings.

Implementation: Precedent of the slow commercial conversion of Sackville Drive, and older homes which now house commercial functions. A handful of homes within Millwood already operate businesses in a less formal manner, with three very near the portion of Millwood Drive across from the high school and Millwood Commons. Rehabilitation of Millwood Drive to a pedestrian-friendly road form will allow the introduction of new commercial spaces adjacent to have a more significant impact. Phasing of commercial interventions will allow for intensification of use over time. Initial proposals include additions to the front of homes, which brings the commercial access point closer to the street, to better engage passersby. A laneway introduced between Millwood and Mulley Court allows for the upper levels of existing homes to be adapted to single-storey dwelling units, accessible from the back lane. An example design case at 148 Millwood Drive is explored on the pages that follow.

Illustration 85: Sackville Drive Businesses in converted homes

Illustration 86: 148 Millwood (Dec 2019) and proposed programming distribution

Illustration 87: Mixed use rehabilitation at 148 Millwood Drive (1:500)

Illustration 88: Commercial addition at 148 Millwood, Millwood Drive perspective

Application of Design Guidelines:

Rehabilitation of 148 Millwood Drive centrally places commercial amenities (5A). It furthers land-use intensification, holding both an accessible dwelling and a commercial unit (2B, 7A), and uses existing built fabric for the future (1). Program-specific language of form is represented in the flat-roofed massing of the commercial addition (11B), while the residential addition has a gabled form (11A). The retail addition brings the front façade closer to the street, reflecting its commercial character (6A). Wood cladding is applied on both the new and existing structures, following the vocabulary of guideline 14B, and offering an opportunity to improve the existing building envelope (18). Aspect ratios of new windows typically reflect the orientation of cladding types (15A) – a key exception being the larger storefront windows on the commercial space, which derive their lines from the window apertures and framing shutters on the existing dwelling (12B, 17).

Illustration 89: Massing diagram for design approach at 148 Millwood

Illustration 90: Floor plans of mixed-use 148 Millwood Drive (1:200)

Above: Laneway level three bedroom, accessible dwelling. Below: Millwood Drive commercial space

Illustration 91: Elevation northeast facade (1:200)

Window aperture, and cladding orientation indicate original construction era of respective building portions

Illustration 92: Section from Millwood Drive to new laneway (1:200)

- Existing fabric in section
- Existing spaces
- Removed building fabric

Illustration 93: Millwood Drive elevation (1:200)
Storefront derives lines from the existing building

Illustration 94: Elevation facing laneway (1:200)
Residential addition uses gable slope, eaves meet existing

Existing built fabric

Residential Incremental Interventions

Intention: to utilize suburban building stock, introducing gentle density and meeting diverse housing needs, while improving the performance of existing structures.

Implementation: design strategies for residential interventions draw inspiration from the features of, and adaptations to, pre-subdivision homes in the study area (Illustrations 42-44). New Urbanism encourages the use of front porches to engage private homes with community life.¹⁴⁹ The proposal types use grade changes to optimize accessibility of existing structures. The first design uses a single parcel and adapts a two-level single-unit dwelling at 103 Noria Crescent as stacked, single-storey flats. The second intervention introduces an infill structure between two split-entry homes, with levels of the new building meeting the present streetfront at Mulley Court, and the laneway introduced in the 148 Millwood Drive proposal. The vernacular south-facing sunroom is reimagined as shared greenhouse spaces, common among the units in each of the proposals. The greenhouses provide opportunities for passive design and improved building performance, supply a space for extended seasons of suburban agriculture, while supporting social engagement between building residents.

Illustration 95: 5 and 9 Mulley Court (March 2020)

Illustration 96: 103 Noria Crescent, March 2020

- Shared greenhouse space
- Accessible one bedroom unit
- Two bedroom unit
- Existing structure

Illustration 97: 103 Noria Crescent proposed programming distribution

¹⁴⁹ Robert Steuteville, "25 Great Ideas of the New Urbanism," CNU, October 31, 2017, <https://www.cnu.org/publicsquare/2017/10/31/25-great-ideas-new-urbanism>; Lynn Freehill-Maye, "America Rediscovered Its Love of the Front Porch," CityLab, accessed March 12, 2020, <https://www.citylab.com/life/2017/11/front-porches-are-having-a-moment/546176/>.

Illustration 98: Single-parcel rehabilitation at 103 Noria Crescent (1:500)

Illustration 99: Rehabilitation at 103 Noria, front perspective view

Application of Design Guidelines:

103 Noria supports intensification, converting one dwelling into three separate units (2B). Mature trees are retained even with front and rear additions (3). Using the change in grade, the one bedroom units on the lower level have at-grade access at the building's rear, and may be reached by half a storey of stairs from Noria (16); one unit might be owner-occupied, or all three could be rented (7A).

The south-facing greenhouse recalls vernacular sunrooms (13) and gives a shared social space; its proximity to the roadway gives 'eyes on the street' (7B). The gabled roof form of the greenhouse has eaves which align with those of the existing house (11A, 12A). The flat roof used on the rear addition departs from the language of design guideline 11, but is done to retain both the form and function of an existing rear deck. The existing house, and rear addition follow the wood cladding vocabulary per guideline 14B.

Illustration 100: Diagrammatic section of accessible design approach at 103 Noria

Illustration 101: Massing diagram for design approach at 103 Noria

Illustration 102: Floor plans of 103 Noria Crescent (1:200)

Above: Upper level two bedroom unit. Below: lower level greenhouse and two accessible one bedroom units

Illustration 103: 103 Noria, front elevation (1:200)

Lines of greenhouse facade and roofline derived from eaves and apertures of existing dwelling

Illustration 104: Section 103 Noria Crescent (1:200)

Noria-facing greenhouse addition uses gable form, while rear addition uses flat roof to retain previous function of existing deck

Illustration 105: 103 Noria greenhouse interior perspective

Illustration 106: Multi-parcel residential infill at 7 Mulley Court (1:500)

Illustration 107: 7 Mulley infill design, Mulley Court perspective view

Application of Design Guidelines:

7 Mulley is an entirely new construction, which adapts detached houses into a continuous row with an infill structure, whose footprint reflects existing house spacing (2B, 12B). The intervention adapts to topographic change between Mulley Court and Millwood Drive (8) and abstracts a gable form to express the building's residential use (11B).

The interiors of 5 and 9 Mulley are not redesigned in this proposal, but a conversion to flats project (as is demonstrated at 103 Noria) might be applied in conjunction with an infill project. The extent of prescribed changes to the existing houses flanking 7 Mulley are exterior – replacing exterior walls with new party walls, and retrofitting the building envelopes of 5 and 9 Mulley (18). Cladding and window expressions reflect design guidelines 14 and 15. A front porch on 7 Mulley lines up with the front of the existing homes, and engages the house with the street (7B, 12).

Illustration 108: Approach for infill and response to topography at 7 Mulley

Illustration 109: Floor plans of 7 Mulley Court (1:200)
Above: upper level bachelor unit. Middle: accessible bachelor and shared greenhouse. Below: accessible two bedroom unit and utility spaces

Illustration 110: Street-facing elevation 7 Mulley Court (1:200)

Window aperture, and cladding orientation indicate original construction era of respective buildings

Illustration 111: Section 7 Mulley Court (1:200)

South-facing shared greenhouse space, and Mulley Court facing covered porch are social features of this multi-unit building

Building Performance:

Systems integrated in 7 Mulley not only provide the new structure with efficient performance, but may be wielded to improve that of the existing houses to which it is affixed. This process reflects the intent of design guideline 19.

Daylighting and Thermal Mass:

Southeast orientation of 7 Mulley can be used for daylighting – but glare and solar heat gains will need to be managed. Brise-soleil and blinds can be used to reduce glare. Solar heat can be harnessed using thermal mass, which may reduce heating and cooling needs for the spaces. Use of concrete for surfaces which receive direct sunlight can act to capture and redistribute heat from the sun.

Rainwater Collection:

A rainwater collection system will help to reduce runoff, and can be recycled as grey water for use in the multi-unit building. This non-potable water can be used to irrigate plantings in the greenhouse, and other secondary uses in the residences.

Campus Geothermal system:

The laneway between Millwood Drive and Mulley Court may provide an opportunity to implement a campus-style geothermal system for all rehabilitations near the lane. A multi-parcel plan for a geothermal system which might serve all rehabilitations increases efficiency – both in construction and in reduced capacity needed compared with discrete systems for as many structures.¹⁵⁰

Daylighting and Thermal Mass

Rainwater Collection

Illustration 112: 7 Mulley building systems diagrams (1:400)

¹⁵⁰Marty Anthony, Telephone conversation with Marty Anthony of Groundhog Geothermal, interview by Christie Ellis Wong, February 10, 2020.

Building Envelope:

Introduction of new construction is an opportune time to revisit building envelope issues in existing homes per design guideline 18. Split-entry houses, with frequent use of cantilevered floor details, foundations with interior insulation only, and typically inadequate R-values, can be retrofitted for significant performance improvement. Precedents of envelope retrofits to existing twentieth century homes demonstrate that added exterior insulation is typically more effective for overall envelope performance than interior.¹⁵¹ Particularly in the moist and humid east coast climate, exterior rehabilitations will allow for better moisture control. CMHC studies on retrofits inform how wall assemblies in Millwood are likely composed, and act as a roadmap for how they might be improved.

Excavation for 7 Mulley might be extended to exposing foundation walls and apply exterior insulation, dampproofing, and drainage mats to the existing basements. A continuous airtight membrane and an additional layer of insulation can be applied on above-grade walls.¹⁵² Brick finishes should be carefully removed, and any salvageable material reused as a central accent in recladding (17); all other new cladding on existing homes would be horizontally oriented cedar (11B). Windows and doors should be upgraded for new models with improved efficiency the same time. Replaced windows should follow the size and placement of existing apertures, but use the finish vocabulary of new interventions (15 A, 15B). Shutters and feature windows should be retained (17).

Illustration 113: Building envelope retrofit diagram

Illustration 114: Recladding sketch for Mulley Court houses

¹⁵¹ John Vara, ed., "A (Near) Zero-Energy Rehab," Energy Design Update 28, no. 12 (December 2008).

¹⁵² Canada Mortgage and Housing Corporation, 3.

Illustration 115: 7 Mulley greenhouse interior perspective

The greenhouse supports suburban agriculture, and can support social engagement between residents of the multi-unit building.

Part III Summary

The study site is positioned at the periphery of an urban area facing a rental crisis. The neighbourhood exists within, and detrimentally effects, a major watershed and floodplain area. Use of active transportation and public transit are hindered by infrastructural design and distribution of important amenities. Redevelopment of the Millwood subdivision offers opportunities to address aspects of each of these issues. A first step in developing a design proposal responding to the needs and conditions of the site merits the assessment of value-potential, and identification of areas with room for improvement. The proposed re-zoning considerations outlined in this chapter support the development of a cohesive plan for Millwood's future.

Infrastructural interventions can facilitate large-scale change within existing neighbourhoods. In the Millwood design sub-site, infrastructural change can support: active transportation and the conversion of Millwood Drive to a mixed use main street; increased recreational opportunities and engagement with the site's natural heritage; introduction of quality public spaces; and, landscape-scale stormwater management and flood resiliency measures. Schematic approaches for a public facility, and a landscape-scale roadway rehabilitation have each been outlined to demonstrate how infrastructural change might take shape in Millwood.

Versions of incremental interventions have been proposed for conversions of a single parcel, or for the rehabilitation of multiple adjacent parcels. Though constituting only small actions on their own, when paired with moves at the infrastructural scale, incremental interventions can support significant change. Design of incremental interventions pursues an architecture with a relationship to its specific context, and seeks to dialogue with existing vernacular patterns. Introduction of new interventions also offers opportunities to design for improved performance of existing dwellings. Examples from the infill project at 7 Mulley Court have been discussed in greater detail, because the larger, multi-parcel project provides more opportunities for improved efficiencies – but retrofits to systems and materials can, and should, be integrated in every type and scale of rehabilitation project. The incremental intervention proposals exemplify how the existing building stock might be reused in pursuit of community objectives, and, how the existing structures may be better engaged to “achieve the cultural significance that they... couldn't on their own.”¹⁵³

¹⁵³Koolhaas and Otero-Pailos, *Preservation Is Overtaking Us*.

Illustration 116: Millwood Drive at Rafting Drive

Conclusion

“Yet, despite being economically and environmentally unsustainable, these operations are part of our heritage as well. As wrongheaded as they may be, they are, nonetheless, culturally important and symbolic of our past.”

- “Heritage in the ‘Burbs,” (2007),
Edmund P. Fowler

Reflection: Theory and Process

The thesis question of whether existing suburbs can be rehabilitated to become sites of future heritage prompts two other key questions: what is future heritage, and how might this be pursued? Physically, a first step toward building for future heritage might be to build for longevity. However, the durability of the built environment must look beyond its immediate physicality, to also consider the state of the natural environment. Climate change poses one of the most severe threats to every type of heritage, and movement toward more sustainable patterns of building and living is imperative to ensuring the continuity of sites that matter.¹⁵² Philosophically, future heritage might entail the creation of places which are deeply embedded in their context, and reflective of the time and place of their inception. Perhaps even more important will be to design for people, to create built environments where attachments and associations may be formed – because ultimately, it is the community and the life that is lived in a site that will give it a story to tell the future.¹⁵³ The approach toward future heritage in this thesis has been one of sustainable place-making, of building in the present to engage both the past and the future of the site.

Theoretical Approach:

Early in the development of this project, it became clear that no single existing approach would be adequate for assessing and responding to the conditions of existing suburban communities. However, various areas of literature were found to be useful in understanding aspects of the thesis question; ideas from New Urbanism, values-based conservation and critical regionalism have been extracted and applied together to create a hybrid methodology. Each of these approaches have both benefitted and presented challenges to the process of this thesis; indeed, these methods were overlaid in order to compensate for inadequacies in each, however even this integrated method may not entirely encapsulate the scope of the problem posed by existing suburbs.

New Urbanism:

Principles from New Urbanism can inform how sustainable communities are planned - but its application does not necessarily produce sustainable communities or good architecture. The tendencies for New Urbanist communities to further proliferate urban sprawl and to use a traditionalist architectural language were identified early in the process as weaknesses of this approach. Application of these principles in an existing site, and in conjunction with ideas from

¹⁵² Ewan Hyslop, "The Contribution of Climatology to Heritage Conservation," in *Interdisciplinarity and Heritage Conservation: From Theory to Practice* (Round Table organized by the Canada Research Chair on Built Heritage, Montreal: Université de Montreal, 2015), 81–91.

¹⁵³ "Placemaking: The Heart of Heritage Conservation – Global Heritage Fund," <https://globalheritagefund.org/2018/04/24/placemaking-heart-heritage-conservation/>.

architectural conservation was intended as a response to the problem of sprawl. Integration of a critical regionalist lens toward design was layered in as a counterpoint to New Urbanism's typical lack of a compelling architectural expression.

New Urbanism provided useful metrics for assessing aspects of sustainable communities, but its principles, and the LEED for Neighbourhood Development system may be too prescriptive. This highly regulated approach impacted the approach taken in the thesis methodology, possibly for both better and worse. While the scales of New Urbanism provide a helpful framework for site analysis, they are perhaps too focused on built works. Indeed, this approach considers the natural environment only insofar as it is impacted by the built environment and cannot really take the place of a coherent landscape analysis of the site.

Values-based Conservation:

This approach from heritage conservation was identified as a useful tool in responding to existing built environments and developing a method for assessing heritage value and value-potential. However, the principles from values-based conservations reached certain limitations in applying these ideas toward non-heritage sites, and the idea of future heritage. The temporally limited, community-based determination of values in values-based approaches limits the ability of this movement to speak to future heritage potential.

Moreover, a key aspect of values-based conservation is the retention and protection of character-defining elements – that is, attributes identified as supporting and demonstrating the character of the site. However, in a non-heritage site like a late twentieth century subdivision – its character defining elements might not always be positive, and indeed, their protection might be contrary to the pursuit of other objectives. Two examples might be the auto-oriented character of these communities and their homogeneity. While these attributes contribute to the character of the suburbs as we know them today, they undermine the development of a sustainable, equitable community for the future. The ethos of retaining current states often associated with heritage conservation may not adequately support positive change in existing suburban communities.

Critical Regionalism:

Critical regionalism was integrated into the methodology of this thesis in response to the limited attention to architectural expression given in both New Urbanism and Values-based conservation. However, this approach is difficult to assess because it is quite different in its nature from the other applied approaches. Rather than a series of clear principles and recommendations, critical

regionalism is more of a design ideology. There are no clear disadvantages to its use in this thesis process, and yet, there is also no clear way to demonstrate whether/how well this approach has been applied.

The ideas of design inspired by the context may have some overlap with values-based conservation, in that new interventions are often encouraged to respond to existing buildings. However, the heightened interest in responding to the local landscape through building design offers something further, and unique. The design ethos of critical regionalism is quite directly opposed to the traditionalist expressions often associated with New Urbanism – and indeed encourages designs which are more expressly contemporary, more interested in authenticity than replication.

Reflection on Process and Areas for Development:

The theoretical framework developed from existing literature helped to inform the process of research and design in this thesis. Aspects of this process have been explored in the Planning an Approach section of the text. However, there are certain limitations to the process as applied, and several areas for further development have been identified. As expressed within the text, community consultation is one area of research distinctly missing from the thesis process. However, the question of community in this context becomes complex as the thesis analysis and design attempts to navigate multiple timelines; who the community includes – and excludes – has changed, and may continue to change considerably over time.

Another limitation of the thesis work is its response to landscape. To adequately plan for the future of the floodplain, plans for the watershed area as a whole would need to be developed, and additional studies would need to be conducted. Long-term projections for how the floodplain boundaries may change should be established and used to inform planning and design moves. Another area of research which is lacking for the site is indigenous ecological knowledge. A Mi'kmaq Ecological Knowledge Study was conducted by the Confederacy of Mainland Mi'kmaq Environmental Services in 2010 to inform the planning of a new highway extension in the Halifax area.¹⁵⁴ The site for this study extends to Lower, but not Middle Sackville; a study of this type focused on the Sackville Rivers Watersheds area would be hugely beneficial for any future landscape planning for the site.

154 CMM Environmental Services and The Confederacy of Mainland Mi'kmaq, "Mi'kmaq Ecological Knowledge Study: Highway 107 Sackville to Porters Lake," 2010, https://novascotia.ca/nse/ea/highway-107-burnside-to-bedford/Appendix_I-K.pdf.

As alluded to in the analysis of New Urbanism's impact on the thesis methodology, some aspects of the approach to rehabilitation and design may have been too prescriptive. Community objectives may be useful in determining areas for intervention and programming – but it is difficult to ensure that these are developed in a way that reflects both the present and future needs and desires of the community. It is important that objectives be reevaluated over time – whose needs are they prioritizing? What areas are being neglected? Perhaps the most prescriptive portion of the thesis approach are the Design Guidelines. While these were useful in developing a method for designing multiple intervention proposals for the site – they may be too restrictive for real life application. Particularly where architectural similarity has been perceived as a downside to existing suburbs – future interventions may better serve the community by being a source of variety, and a celebration of diverse forms and materials.

Sustainability has been introduced in this thesis at a range of scales. Indeed, improving the environmental performance of the suburbs has as much – if not more – to do with community planning than the individual buildings within the site. The introduction of more efficient building systems and envelopes help typically underperforming suburban homes more to become more sustainable. Redesign for reduced automobile dependency, with a goal of car-optional living was important in the application of infrastructural interventions. Safe and appealing active transportation routes, along with the introduction of amenities within a convenient travel distance helps to reduce vehicle miles travelled for community residents. As mentioned, long-term planning for the complex landscape of the site has been limited – but opportunities of preservation, management, and remediation in the design sub-site have been highlighted where identified. The health of the Little Sackville Watershed is much larger than the Millwood Common site – but even at the small-scale there are interventions which may contribute to the benefit of the whole. Perhaps the most sustainable feature of the proposals in this thesis is their insistence on building up within rather than extend outside of the existing community. Every new dwelling and every amenity which might be placed within the already built-up area of Middle Sackville is itself an act of conservation, protecting the undeveloped lands at the community's periphery.

Concluding Thoughts

The work of this thesis has been heavily process-driven, and indeed, the development of a systematic, hybrid approach may be its most notable component. While this process may not be complete – and

certainly has had numerous limitations – its uniqueness lies in the integration of existing approaches to create a framework for assessing and responding to existing suburban neighbourhoods, in the interest of rehabilitating them as heritage sites of the future. Though prolific and problematic – the suburbs are our architectural legacy, in many ways our heritage. Moving forward to plan for future sustainable development, the question of how to respond to existing subdivisions will become more and more pressing. While the developed process has been heavily informed by the specific context of the Middle Sackville study site, the concept behind the hybrid approach could certainly be reapplied in considering the future of many other suburban sites across Canada.

Within this thesis, a theoretical framework, a method of approach, and a series of design examples in a case study of the Millwood subdivision have been developed to explore these ideas. But this constitutes only a beginning – and just one possible inquiry into a tremendous question. The suburbs comprise an enormous portion of the Canadian built environment, so unavoidably, they will continue to be a major part of our future. So, is it possible that existing twentieth-century suburban sites might be rehabilitated to become future heritage sites? To James Howard Kunstler, the suburbs are “a landscape of scary places, the geography of nowhere, that has simply ceased to be a credible human habitat.” Indeed, in the early stages of developing this thesis, the perspective of the author was that suburbs are all the same – environmentally devastating, placeless places. While these neighbourhoods offer considerable challenges towards sustainable development, the suburbs are a significant manifestation of Canada’s cultural history from the postwar to the present. Moreover, individual suburban sites may offer their own unique histories and value-potential.

Despite initial observations, Middle Sackville is far from generic; the site has a complex past and finds itself in an environmentally delicate position in the present. The threat of flooding from the Little Sackville River, and ongoing degradation of the area’s natural ecologies mean that environmental planning and response is becoming an ever more pressing issue. Even the Millwood subdivision holds its own specificity of place and has natural and cultural value-potential – which suggests that, indeed, many other suburban sites may too hold value beyond what they readily present on the surface. Redeveloping late twentieth century suburbs is an opportunity both to address present sustainability issues and to engage the value-potential of existing communities. Rather than beginning new neighbourhoods ‘from scratch’, existing subdivisions might provide basic infrastructure, embodied energy of existing structures, and social investment of current residents as valuable resources toward the development of future sustainable communities. Perhaps no place is truly placeless, and no site is entirely devoid of potential.

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Appendices

Appendix A: Glossary

Appendix B: Housing Types in Middle Sackville

i Typological Study

ii Timeline of House Types

Appendix C: Community Literature Review

Appendix D: Heritage Character Statement

Appendix A: Glossary

Definitions by the author, unless otherwise sourced

Active Core: see *Transportation Method*

Active Transportation: “Active Transportation (AT) is any human-powered travel such as walking, bicycling or skating. HRM identifies AT by four categories: active commuting; active workplace travel; active destination oriented trip; active recreation.”¹⁵²

Aging in Place: The ability to live in the same home or community safely, independently, and comfortably, as you age.¹⁵³ Aging in place means having access to services and the health and social supports you need to live safely and independently in your home or your community for as long as you wish or are able.¹⁵⁴

Apartments: see *Housing Types*

Architectural style: An architectural expression or form which bears physical attributes relating to a particular style or movement. Styles often relate to particular time periods in construction, and will dictate features or language of design to which all buildings within the style must adhere.

Auto Suburb: see *Transportation Method*

Baby Boomers: In Canada, people born between 1946-1965.¹⁵⁵ Refers to a large generation, born in the postwar era.

Bedroom Community: “a small community that has no major industries and that is lived in by people who go to another town or city to work.”¹⁵⁶

¹⁵² <http://sackvillervers.ns.ca/wp-content/uploads/2012/09/SRA-Sackville-Greenways-brochure-sept12.pdf>

¹⁵³ CMHC, “Aging in Place,” accessed February 21, 2020, <https://www.cmhc-schl.gc.ca/en/developing-and-renovating/accessible-adaptable-housing/aging-in-place>.

¹⁵⁴ Canada, “Thinking about Your Future?”

¹⁵⁵ Statistics Canada, “Generations in Canada.”

¹⁵⁶ “Bedroom Community,” in *Merriam-Webster Dictionary*, accessed March 19, 2020, <https://www.merriam-webster.com/dictionary/>

Built Heritage: “Built heritage consists of all aspects of the man-made historic environment such as houses, factories, commercial buildings, places of worship, cemeteries, monuments and built infrastructure such as roads, railways and bridges; physically created places such as gardens, mining sites and stock routes; and other places of historical significance such as archaeological sites.”¹⁵⁷

Bungalow: see *Housing Types*

Community Objectives: Site-specific goals which support community needs and follow principles from New Urbanism for the development of sustainable communities.

Congress of the New Urbanism (CNU): A non-profit organization related to the New Urbanist movement. Involved in the development of The Charter of the New Urbanism, the Smart Growth Movement, and LEED ND.

Conservation Decision-making process: “Conservation activities can be seen as a sequence of actions — from understanding the historic place, to planning for its conservation and intervening through projects or maintenance. Because conservation is an ongoing and cyclical process, people involved in conservation must often retrace their steps to re-examine their approaches, namely, to assess the impacts of planned interventions on character-defining elements, or to obtain additional information.”¹⁵⁸

Continuity: “The state or quality of being continuous.”¹⁵⁹ Use in a living heritage approach

bedroom+community.

¹⁵⁷ “What Is Built Heritage?,” *Modern Heritage Matters*, accessed March 19, 2020, http://modernheritage.com.au/mhm/understand_heritage/what-is-built-heritage/.

¹⁵⁸ Parks Canada, *Standards and Guidelines for the Conservation of Historic Places in Canada*, 3.

¹⁵⁹ “Continuity,” in *OED Online* (Oxford University Press), accessed March

includes: "Continuity of the function of a site," "Continuity of the process of maintenance," "Continuity of the physical presence of a site's community in a site," and continuity even in change.¹⁶⁰

Core community: A 'core community' which "has the primary role in the conservation and management of the site, and considers the caring for the site its own inherent obligation."¹⁶¹

Corporate suburbs: Speculatively developed, commoditized communities constructed in a standardized way. "Between 1945 and about 1960 it is possible to trace the rise of a corporate, packaged suburb that was designed, financed, and built in an increasingly standardized way."¹⁶²

Critical regionalism: a movement in architectural theory and design; the term was coined by Liane Lefaivre and Alexander Tzonis in the 1970s, though it builds upon much earlier ideas of regionalism.¹⁶³ Kenneth Frampton writes that if "if any central principle of critical regionalism can be isolated, then it is surely a commitment to place rather than space."¹⁶⁴

19, 2020, <http://www.oed.com/view/Entry/40278>.

¹⁶⁰ Poullos, "Moving Beyond a Values-Based Approach to Heritage Conservation," 175.\\uc0\\u8221{} 175.", "plainCitation": "Poullos, \"Moving Beyond a Values-Based Approach to Heritage Conservation,\" 175.", "noteIndex": 168}, "citationItems": [{"id": 99, "uris": ["http://zotero.org/users/local/pbRKiGYF/items/DYDEEL9J"], "uri": ["http://zotero.org/users/local/pbRKiGYF/items/DYDEEL9J"], "itemData": {"id": 99, "type": "article-journal", "abstract": "A values-based approach is the current most preferred approach to heritage conservation, adopted, and advocated by major conservation authorities, both at national level (e.g., USA, Canada, Australia, and UK

¹⁶¹ Poullos, 175–76.adopted, and advocated by major conservation authorities, both at national level (e.g., USA, Canada, Australia, and UK

¹⁶² Harris, *Creeping Conformity*, 132.

¹⁶³ Lefaivre and Tzonis, *Architecture of Regionalism in the Age of Globalization*, viii; Christie Ellis Wong, "Substance over Style: Critical Regionalism and Phenomenology as Approaches to Authentic Architecture," Essay, ARCH 5200 (Ottawa: Carleton University, 2019).

¹⁶⁴ Frampton, "Prospects for a Critical Regionalism," 162.

Discontinuity: In a living heritage approach, the disjuncture between the past and present of a site – separating an historic memory from the ongoing life of a site. Ioannis Poullos writes that acts of conservation often yield a "discontinuity

created between the monuments, considered to belong to the past, and the people of the present."¹⁶⁵

Early-Millwood: see *Eras of Development in the Study Area*

Early Settlement: see *Eras of Development in the Study Area*

Eras of Development in the Study Area (defined by author, based on observations of built environment):

Early Settlement: extant farmhouses from the 18th, and the early part of the 19th century. Only known examples are along the Old Sackville Road.

Village of Middle Sackville: homes from approximately the 1920s up until the 1960s. Found along Sackville Drive, Old Sackville Road, Beaverbank Road/Cross Road, Jubilee Lane, Connolly Road.

Pre-Millwood Subdivision: houses from the 1960s to the early 1980s. In the Judy Avenue area, and around Jubilee Lane. Includes early mobile home neighbourhood Sackville Estates

Early-Millwood: mid-1980s to the early 1990s. Characterized by split-entry, semi-detached, and bungalow houses, and examples of townhouses and mobile homes. Includes Century Park mobile home neighbourhood.

Roads: Waterwheel, Noria, Beaverbank Cross Road, Millwood Drive.

¹⁶⁵ Poullos, "Moving Beyond a Values-Based Approach to Heritage Conservation," 182.\\uc0\\u8221{} 182.", "plainCitation": "Poullos, \"Moving Beyond a Values-Based Approach to Heritage Conservation,\" 182.", "noteIndex": 173}, "citationItems": [{"id": 99, "uris": ["http://zotero.org/users/local/pbRKiGYF/items/DYDEEL9J"], "uri": ["http://zotero.org/users/local/pbRKiGYF/items/DYDEEL9J"], "itemData": {"id": 99, "type": "article-journal", "abstract": "A values-based approach is the current most preferred approach to heritage conservation, adopted, and advocated by major conservation authorities, both at national level (e.g., USA, Canada, Australia, and UK

Mid-Millwood: Early to late 1990s. Continued prevalence of split-entry homes. Diminished numbers of other housing types, including multi-unit dwellings. Roads like: Rafting, Jackladder

Late-Millwood: Circa 2000-2009. Rise in two-storey and bungalow dwellings, and a return of semi-detached developments. Few split-entry homes in this time. Roads like: Rossing, Larrigan, Hewer.

Post-Millwood: recent developments, dating from about 2009 onward, relating to the establishment of the Margeson Road exit. Includes subdivisions like Twin Brooks, Sunset Ridge, Ellis Estates.

Exurban: see *Transportation Method*

Flooding Considerations: An umbrella term to encompass ideas of facilitating a safe, viable future for the Little Sackville River floodplain and surrounding areas. This zone includes the river, numerous streams, several wetland areas in varied states of health, marshlands and wooded areas, as well as numerous human-made elements such as bridges, roads, and homes – all having varied levels of impact on the state of the floodplain.

Future Heritage: The creation or protection of sites in the present which might prove to be of heritage value in the future. Future heritage is supported by building for a long-life, reflecting the time and place of a site's inception, and facilitating functions which will give it a story to tell the future. The approach to future heritage in this thesis is one of sustainable place-making.

Gentle Density: "Gentle density is attached, ground-oriented housing that's more dense than a detached house, but with a similar scale and character. Think duplexes, semi-detached homes, rowhouses, or even stacked townhouses."¹⁶⁶

Great Roads: In settlement-era Nova Scotia, two great roads facilitated most overland transportation in the province. These early roads Halifax to both Windsor and Truro, respectively.

¹⁶⁶ "What Is Gentle Density and Why Do We Need It?," Smarter Growth Initiative YYC, accessed March 19, 2020, <https://www.smartergrowth.ca/what-gentle-density-and-why-do-we-need-it>.

Greenfield development: Construction on previously undeveloped lands, eg. replacing "farmers' fields or protected areas,"¹⁶⁷ often associated with urban sprawl, and the extension of metropolitan peripheries.

Greenway: "A greenway is a transportation corridor that offer connections – not simply connecting recreational areas through trails, but connecting wildlife habitats to each other, human communities to other human communities, city to country, people to nature. Greenways are meant for movement of people and are generally found in urban and suburban contexts, such as Sackville."¹⁶⁸

Heritage Futures: Disambiguation: "Heritage Futures is an interdisciplinary research programme which aims to develop a broad, international and cross-sectoral comparative framework for understanding 'heritage' in its most expansive sense." It is an unrelated movement, and should not be confused with the use of the term **future heritage** in this thesis.¹⁶⁹

Heritage Value: "values generally include the aesthetic, historic, scientific, cultural, social and/or spiritual importance of a place, and: May be singular or multiple; Are subjective, wide-ranging, and can overlap; Can be differently assigned by different groups, and may even change over time."¹⁷⁰

Historic Urban Landscape Approach: An approach to heritage conservation which recognizes the need to reconcile sustainable development with the conservation of historic sites; advocates identifying urban areas: "as the result of a historic layering of cultural and natural values and attributes, extending beyond the notion of 'historic centre' or 'ensemble' to include the broader urban context

¹⁶⁷ Grant, "The Ironies of New Urbanism," 166.

¹⁶⁸ <http://sackvillerivers.ns.ca/wp-content/uploads/2012/09/SRA-Sackville-Greenways-brochure-sept12.pdf>

¹⁶⁹ "Heritage Futures | Assembling Alternative Futures for Heritage," Heritage Futures, accessed December 10, 2019, <https://heritage-futures.org/>.

¹⁷⁰ Parks Canada, *Standards and Guidelines for the Conservation of Historic Places in Canada*, viii.

and its geographical setting.” In 2011, UNESCO put forward a series of recommendations for a “comprehensive and integrated approach for the identification, assessment, conservation and management of historic urban landscapes within an overall sustainable development framework.”¹⁷¹

Holistic Approach: An approach to heritage conservation, which Dennis Rodwell describes as: “the holistic approach to the conservation of historic cities places conservation shoulder-to-shoulder with sustainability and prioritizes the avoidance of conflict. It seeks common-ownership of a vision and working framework that is co-ordinated across the diversity and multiplicity of disciplines and players in urban management and urban life. In short, it demands joined-up thinking and joined-up working, all from a core that integrates best practice in both sustainability and conservation.”¹⁷²

Housing types (particularly in the study site):

Raised Bungalow: the CMHC term for the split-entry house type.

Split-entry: A single-detached house form, similar to a bungalow, but with a 1.5 storey massing, and a basement only partially submerged below grade. Characterized by a split-run staircase just within the front entrance, which leads to living spaces on both the lower and upper levels. Term is used in *Houses of Nova Scotia* and describes the majority of detached houses in Millwood.¹⁷³ Relates to Bungalow form.

Split-level: A single-detached house form, where a portion of the house has a 1.5 storey massing (similar to a split-entry), and another portion is single-storey, (resembling a bungalow). Term per *Houses of Nova Scotia*, house form occurs infrequently in the study site – and only in pre-Millwood subdivisions. Relates to Bungalow form.

Bungalow: small, single-detached dwelling form used in early twentieth-century suburban development in Nova Scotia continuing to be built today.¹⁷⁴ May be 1 or 1.5 storeys; postwar bungalow homes are typically all single-storey, with the exception of walk-out basements.

Two-storey: single-detached house type frequently used in late- and post- Millwood. Relates to earlier historic forms of farmhouses.

Semi-detached: housing form with two dwellings, side-by-side, attached by one shared wall. Each has an entrance a grade, and a multi-level dwelling space. Common in Early-Millwood and becoming present again in Late- and Post-Millwood developments.

Apartments: Multi-unit dwellings where individual units do not necessarily have direct exterior access. Few instances in the study area, but with numbers increasing significantly in the Post-Millwood era.

Mobile Homes: single-level dwellings which may not have fixed foundations. Homes have long, narrow forms, and are typically grouped with other dwellings of the same type in a neighbourhood. No new mobile home neighbourhoods have been developed in the study area since the 1980s, though new structures have been introduced within existing neighbourhoods.

Incremental interventions: Small-scale changes which might include rehabilitations to one or more existing buildings, landscaping projects in discrete greenspaces, or new build infill projects. Incremental interventions should be developed in support of overall objectives for the site, but have the advantage of being more easily implemented than infrastructural changes.

Incremental urbanism: “incremental urbanism—cities that evolve over time through gradual accretions and infill so that the collective form bears the imprint of a broad spectrum of interests.”¹⁷⁵

Infrastructural interventions: Rehabilitations at the scale of the community, often systemic in nature or existing across contiguous parcels of land.

¹⁷¹ UNESCO, “Recommendation on the Historic Urban Landscape,” November 10, 2011, 3, <https://whc.unesco.org/uploads/activities/documents/activity-638-98.pdf>.

¹⁷² Dennis Rodwell, “Sustainability and the Holistic Approach to the Conservation of Historic Cities,” *Journal of Architectural Conservation* 9, no. 1 (January 1, 2003): 67, <https://doi.org/10.1080/13556207.2003.10785335>.

¹⁷³ Penney, *Houses of Nova Scotia*.

¹⁷⁴ Penney.

¹⁷⁵ Dunham-Jones and Williamson, *Retrofitting Suburbia*, 2.

May also include major public spaces. Examples within Millwood would be road dieting or redesign, planning for major community spaces, or the implementation of the Sackville River Greenway. Though infrastructural interventions require significant capital and coordination to initiate, major shifts in existing patterns and systems require neighbourhood-scale change.

Kunstwollen: At the turn of the century, Alois Riegl “developed the concept of the ‘Kunstwollen’, which may be loosely defined (as) the collective will-to-art. It is deeper than fashion, and refers to the shared, intrinsic societal belief structure as it is connected to artistic and cultural production.”¹⁷⁶ ERA Architects write that “Riegl argued that our view of history was forever shifting, since it is always

filtered through the lens of the ‘Kunstwollen’, or our immediate cultural belief system, which is itself constantly shifting.”¹⁷⁷

Late-Millwood: see *Eras of Development in the Study Area*

LEED for Neighbourhood Development (LEED ND): A checklist of design considerations and criteria developed by LEED and the Congress for New Urbanism. Uses three main categories, Smart Location and Linkage, Neighbourhood Pattern and Design, and Green Infrastructure and Buildings, to award points to sustainably designed neighbourhoods.

Living Heritage Approach: An approach to conservation in which “continuity is the key concept.”¹⁷⁸ It recognizes relationship to a core community, and the continued life of the site as being primary to its value.

Long life/Loose fit: Coined by Stewart Brand in *How Buildings Learn*, “the concept is that a building can and should last a long time but allow for changing uses over time. Many historic buildings demonstrate long life/loose fit with creative designs

that successfully provide for dramatic new uses.”¹⁷⁹

Mid-Millwood: see *Eras of Development in the Study Area*

Millennials: Now the largest population demographic in Canada, “the millennial generation (also known as Generation Y) refers to a cohort of people born roughly between 1980 and 2000... Most millennials are children of members of the baby boom generation.”¹⁸⁰

Mobile Homes: see *Housing Types*

Modern Heritage: May be contrasted with what is termed “traditional heritage,”¹⁸¹ and pertains to “buildings constructed during the “Modern” period, which in Canada means from after WWII until the mid-1970s.”¹⁸² Indeed, “post-war buildings and landscapes present unique challenges,” but represent an important period in history, and may also support unique sets of values.

Neighbourhood: “A neighbourhood is an area of dwellings, employment, retail, and civic places and their immediate environment that residents and/or employees identify with in terms of social and economic attitudes, lifestyles, and institutions.”¹⁸³

New Urbanism: “Founded in 1993, New Urbanism is a movement united around the belief that our physical environment has a direct impact on our chances for happy, prosperous lives... New Urbanists have been responsible for creating and

¹⁷⁶ ERA Architects, “Alois Riegl and the Modern Cult of the Monument.”

¹⁷⁷ ERA Architects.

¹⁷⁸ Poullos, *The Past in the Present*, 115.

¹⁷⁹ Jean Carroon, *Sustainable Preservation: Greening Existing Buildings* (Hoboken, N.J.: Wiley, 2010), 11.

¹⁸⁰ “Millennials in Canada,” The Canadian Encyclopedia, accessed February 21, 2020, <https://www.thecanadianencyclopedia.ca/en/article/millennials-in-canada>.

¹⁸¹ Susan Algie, James Ashby, and Winnipeg Architecture Foundation, eds., *Conserving the Modern in Canada: Buildings, Ensembles, and Sites, 1945-2005: Conference Proceedings*, Trent University, Peterborough, May 6-8, 2005 (Winnipeg: Winnipeg Architecture Foundation, 2007), 17.

¹⁸² Parks Canada, *Building Resilience: Practical Guidelines for the Sustainable Rehabilitation of Buildings in Canada*. (Gatineau, QC: Federal Provincial Territorial Historic Places Collaboration, 2016), 41, https://www.historicplaces.ca/media/49493/resilience_en_june%202016.pdf.

¹⁸³ LEED for ND Canadian Compliance Path, xviii.

popularizing many now-common development patterns and strategies, including mixed-use development, transit-oriented development, traditional neighborhood design, integrating design standards into affordable housing, and designing complete and beautiful streets.”¹⁸⁴ The Charter for the New Urbanism is a key document, outlining twenty-seven principles, at three different scales, for community design. Key criticisms of the New Urbanism movement include a tendency toward historicism and nostalgia, and greenfield developments which themselves contribute to furthered sprawl.¹⁸⁵

Non-heritage site: A site that is not designated as heritage, and further, which does not demonstrate the types of features or values which might typically lead to the identification of heritage value. **A mundane or uninteresting place with few**

Placelessness: The quality of being “indistinguishable from other such places in appearance or character.”¹⁸⁶ Lacking in a

discernable sense of place, or specificity of place. Lacking regional identifiers or signifiers.

Post-Millwood: see *Eras of Development in the Study Area*

Pre-Millwood Subdivision: see *Eras of Development in the Study Area*

Prospective Preservation: Idea from Rem Koolhaas, in text *Preservation is Overtaking Us*.¹⁸⁷ Refers to building in the present with greater consideration for how the site might be used in the future, and sees acts of preservation as “no longer a retroactive activity but becomes a prospective activity.”¹⁸⁸

Raised Bungalow: see *Housing Types*

Satellite Community: a residential community which supports housing needs for people who are employed in another (typically more central) area of the metropolitan region. Satellite communities are intended to have the necessary amenities for day-to-day life within itself. Sackville was developed as a satellite for Halifax; the first suburban satellite city in Canada was Bramalea in Brampton, Ontario, “which meant it was planned as a self-sufficient community.”¹⁸⁹

Sense of place: Relating to genius loci, or the spirit of a place; “a strong or clear impression of a place.”¹⁹⁰ Discernable quality or character of a site which supports its values or relates to its placement in a region. Central principle in critical regionalist approaches to design.

Semi-detached: see *Housing Types*

Smart Growth: “Smart growth is development that supports economic growth, strong communities and environmental health.”¹⁹¹ Smart Growth uses ten guiding principles to “create and maintain great neighborhoods.”¹⁹² Centres on ideas of quality of life.

Split-entry: see *Housing Types*

Split-level: see *Housing Types*

Sprawl: see *Urban Sprawl*

Suburb (qualities per *Creeping Conformity*):¹⁹³

- 1) Low density of development, typically of detached or semi-detached, dwellings
- 2) location at, or close to, the urban fringe
- 3) High level of owner-occupation

¹⁸⁴ <https://www.cnu.org/who-we-are/movement>

¹⁸⁵ Jill Grant, “Ironies of New Urbanism.”

¹⁸⁶ “Placeless,” in *Merriam-Webster Dictionary*, accessed March 19, 2020, <https://www.merriam-webster.com/dictionary/placeless>.

¹⁸⁷ Koolhaas and Otero-Pailos, *Preservation Is Overtaking Us*; Moorhouse, “Rem Koolhaas and Prospective Preservation.”

¹⁸⁸ Koolhaas and Otero-Pailos, *Preservation Is Overtaking Us*.

¹⁸⁹ Saulius Svirplys, “‘Creeping Diversity’: Housing Design in Bramalea, Canada’s First Suburban Satellite City” (Thesis, University of Ottawa (Canada), 2007), <http://dx.doi.org/10.20381/ruor-12107>.

¹⁹⁰ “Sense,” in *OED Online* (Oxford University Press), accessed March 19, 2020, <http://www.oed.com/view/Entry/175954>.

¹⁹¹ <https://smartgrowth.org/what-is-smart-growth/>

¹⁹² <https://smartgrowth.org/what-is-smart-growth/>

¹⁹³ Harris, *Creeping Conformity*.

- 4) politically distinct
- 5) middle, or upper-middle class in character
- 6) exclusively residential, implying that residents must commute beyond the suburb to work"¹⁹⁴

Sustainable Communities: Neighbourhoods which support sustainable patterns of living.

Sustainable development: development which "meets the needs of the present without compromising the ability of future generations to meet their own needs."¹⁹⁵

Third place: "Public places provided in the community, apart from home (first place) and work (second place), where 'people gather primarily to enjoy each other's company.'"¹⁹⁶

Transit Suburb: see *Transportation Method*

Transit-oriented Development:

Transportation Method: One of the models applied by David L. A. Gordon & team in the Canadian Suburbs Research project from 2006-2016. This model combines dwelling density and statistics on actual transportation use within census areas to determine which of the following four categories they fall under:

Active Core: Active Transportation greater than 150% of CMA average

Transit Suburb: Transit use greater than 150% of the CMA average

Auto Suburb: Transit use less than 150% of the CMA average

Exurban: Density less than 150 people per square kilometre

¹⁹⁴ Harris, 18–19.

¹⁹⁵ Brundtland Commission, "Report of the World Commission on Environment and Development: Our Common Future" (United Nations, 1987), <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>.

¹⁹⁶ Katherine Thompson, "Women's Perspectives on Suburbs and Social Contact: A Case Study in Lower Sackville, Nova Scotia" (M.P.S., Canada, Dalhousie University (Canada), 2009), xi, <http://search.proquest.com/docview/305049752/abstract/3AD1AB6B791A4276PQ/1>.

Two-storey: see *Housing Types*

Urban sprawl: "the uncontrolled expansion of an urban area into the surrounding countryside; an area characterized by this."¹⁹⁷

Value-ascription: the process of recognizing values which might be attributed to a specific place, object, or movement.

Value-potential: Having attributes which support the future identification of heritage values. These include a strong relationship to time and place, and the engagement of the life of the community.

Village of Middle Sackville: see *Eras of Development in the Study Area*

Walking Distance: "the distance that a pedestrian must travel between origins and destinations without obstruction, in a safe and comfortable environment on a continuous network of sidewalks, all-weather-surface footpaths, crosswalks, woonerfs, or equivalent pedestrian facilities."¹⁹⁸

Walkability: Walkability extends beyond *walking distance* and encapsulates a wider range of considerations. PBS notes that "the factors affecting people's decision to walk, are the types of factors that make a good place: uses & activities, access & linkages, comfort & image, and sociability."¹⁹⁹ Walkable streets, ultimately, create safe and interesting environments for walking – with configurations that put the emphasis on pedestrians over vehicles.

¹⁹⁷ "Urban," in *OED Online* (Oxford University Press), accessed March 19, 2020, <http://www.oed.com/view/Entry/220386>.

¹⁹⁸ USGBC and CAGBC, "LEED 2009 for Neighbourhood Development Rating System with Canadian Alternative Compliance Paths," 2009, 158, https://www.cagbc.org/CAGBC/Programs/LEED/LEED_Canada_Rating_System/Neighbourhood_Development.aspx.

¹⁹⁹ Project for Public Spaces, "What Is Walkability? How Do You Measure It?," accessed February 19, 2020, <https://www.pps.org/article/what-is-walkability-how-do-you-measure-it-take-aways-from-this-years-trb-meeting>.

Appendix B: Housing Types in Middle Sackville

i) Typological Study

The following is a survey of detached house types and other varieties of dwellings as found throughout the study area. Millwood era house types are represented in a cross-section of examples of each type from a range of construction dates. The section with pre-Millwood house types – while not a comprehensive survey represents most of the extant, pre-subdivision homes still found in the site. All images are by the author except where another source has been noted.

ii) Timeline of Housing Types in the Study Area

Approximate timelines of the house types surveyed in the previous section are laid out in the timeline below. Exact construction dates were seldom available, but age of neighbourhoods were approximated through combined analysis of historic aerial photography, real estate construction data, and visual estimation of construction timeframes. Approximate eras of suburban development have been delineated relative to the construction phases of the Millwood subdivision. Early-, Mid-, and Late-Millwood are approximated timeframes estimated by the author based on spurts of construction observed in aerial imagery over time.

One notable trend from the timeline is a Pre- and Early-Millwood interest in multi-unit dwellings (semi-detached, apartments, and townhouses) which, apart from some instances of semi-detached homes, tails off through Mid- and Late-Millwood developments. However, the Post-Millwood developments, particularly in the Sunset Ridge subdivision, there has been a huge resurgence of these housing types. Another observation relates to the changing trends in single-detached house type throughout time. Forms bearing a strong resemblance to historic (pre-subdivision) houses in the study area, (like the bungalow or two-storey homes) have appeared fairly consistently in new construction throughout the second half of the twenty century, and indeed persist in twenty-first century Middle Sackville subdivisions. Whereas the split-entry house, which may be the single most prevalent house type in the study area, was intensely popular throughout Early- and Mid-Millwood developments, but it peters off in Late-Millwood construction, and is completely unrepresented in new builds of the twenty-first century.

Split-Entry

Early Millwood Split-entry, c. 1986. 96 Waterwheel Crescent, Sept. 2019

Early Millwood Split-entry, c. 1985
191 Beaverbank Cross Road, Sept. 2019

Millwood Split-entry, c. 1992
66 Millwood Drive, Sept. 2019

Late Millwood Split-entry, c. 1999
99 Bucheron Crescent, Sept. 2019

Bungalow

Bungalow, Late Millwood, c. 1999. 16 Bucheron Crescent, Sept. 2019

Pre-Millwood Bungalow, c. 1978
16 Loggen Road, Sept. 2019

Lawson Estates Bungalow, c. 2011
63 Claudia Crescent, Sept. 2019

Lawson Estates Bungalow, c. 2012
43 Claudia Crescent, Sept. 2019

Two-Storey

Two-storey, Late Millwood, c. 2000. 16 Yarding Court, Sept. 2019

Two-storey, later Millwood, c. 2004
16 Scaler Court, Sept. 2019

Two-storey Twin Brooks, c. 2010
134 Chipshot Court, August 2019

Two-storey Lawson Estates, c. 2017
19 Claudia Crescent, Sept. 2019

Semi-Detached

Semi-detached Early Millwood, c. 1986. 60-62 Waterwheel Crescent, Sept. 2019

Millwood Semi-detached, c. 2002
33-35 Yarding Court, Sept. 2019

Sunset Ridge Semi-detached, c. 2012
166-168 Darlington Drive, Sept. 2019

Twin Brooks Semi-detached, c. 2017
46-48 Rafting Drive, Sept. 2019

Mobile Homes

Century Park Mobile Home, c. 1987. 6 Boutillier Drive, Sept. 2019

Sackville Estates mobile home, c. 1975
49 Stanley Street, image: viewpoint.ca

Century Park mobile home, c. 1987
19 Boutillier Drive, image: viewpoint.ca

Sackville Estates mobile home, c. 2005
54 Brook Street, image: viewpoint.ca

Townhouses

Townhouse, c. 1987. 19-15 Tessa Lane, myvisuallistings.com

Townhouse, c. 2010
160 Beaverbank Road, viewpoint.ca

Sunset Ridge Townhouse, c. 2014
212-218 Darlington Drive, Sept. 2019

Sunset Ridge Townhouse, c. 2018
45-51 Crossfield Ridge, Sept. 2019

Apartments

Victoria Place Apartments, 40 units, pre-1984. 979 Sackville Drive, September 2019

Hefler Properties, 17 units, pre-1984
993 Sackville Drive, Sept. 2019

Millwood Place (Senior), 59 units, c. 2010
114 Millwood Drive, Sept. 2019

Sunset View Apartment, 64 units, c. 2015
119 Hanwell Drive, Sept. 2019

Side gable with gabled dormers

1320 Old Sackville Road, dates from late 19th century. Image: <http://legacycontent.halifax.ca/council/agendasc/documents/150113ca1152.pdf>

18 Jubilee Lane. Date unknown.
Image: Google Maps

805 Old Sackville Road, dating from at
least 1972 (viewpoint).Image:GoogleMaps

791 Old Sackville Road, dating from at
least 1958 (viewpoint) Image:Google Maps

Gable front cottage, two storeys

1185 Old Sackville Road, date unknown. Sept. 2019

6 Jubilee Lane dating from at least 1959 (viewpoint). Image: Google Maps

1094 Sackville Drive, date unknown. Image: Google Maps

Granville & Clare Ellis House, 1039 Old Sackville Road, c.1917. Image: Google Maps

Non-typical pre-subdivision home

900 Old Sackville Road, date unknown, Dec. 2019

Non-typical pre-subdivision home

Cuthbert & Margaret Ellis House. 1111 Sackville Drive, circa 1948, Aug. 2019

Two-storey side gable with large squared dormers

Side gable prominent, squared front dormer. 33 Connolly Road, dating from at least 1941 (viewpoint), Dec. 2019

1237 Sackville Drive dating from at least 1953 (viewpoint). Image: Google Maps

1031 Sackville Drive, dating from at least 1965 (viewpoint). Image: Google Maps

1031 Sackville Drive, date unknown. Image: Google Maps

75 Beaver Bank Cross Road, dating from at least 1944 (viewpoint), Sept. 2019

36 Beaver Bank Cross Road, dating from at least 1965 (viewpoint), Sept. 2019

1271 Old Sackville Road, dating from at least 1959 (viewpoint), Sept. 2019

Gable front, 1.5 storeys

97 Connolly Road, dating from at least 1930 (viewpoint), Dec. 2019

35 Connolly Road, dating from at least 1947 (viewpoint). Image: Google Maps

56 Connolly Road, date unknown. Dec. 2019

12 Jubilee Lane, dating from at least 1955 (viewpoint), Sept. 2019

35 Beaver Bank Cross Road, dating from at least 1965 (viewpoint), Sept. 2019

951 Sackville Drive, dating from at least 1958 (viewpoint). Image: Google Maps

67 First Street, dating from at least 1963 (viewpoint) Sept. 2019

Side gable bungalow (1)

Side gable prominent front dormer. 33 Connolly Road, dating from at least 1941 (viewpoint), Dec. 2019

424 Millwood Drive, date unknown, Dec. 2019

210 Beaverbank Road, dating from at least 1950 (viewpoint), Dec. 2019

434 Millwood Drive, date unknown. Sept 2019

Side gable bungalow (2)

20 Beaver Bank Cross Road, dates from at least 1940, Sept. 2019

51 Beaver Bank Cross Road, dating from at least 1964 (viewpoint), Sept. 2019

130 Beaver Bank Cross Road, dating from at least 1972 (viewpoint), Sept. 2019

138 Beaver Bank Cross Road, dating from at least 1940 (viewpoint), Sept. 2019

Side gable bungalow (3)

Side gable prominent front dormer. 33 Connolly Road, dating from at least 1941 (viewpoint), Dec. 2019

1369 Sackville Drive dating from at least 1959 (viewpoint). Image: Google Maps

1313 Sackville Drive, dating from at least 1966 (viewpoint). Image: Google Maps

1268 Sackville Drive, dating from at least 1963. Image: Google Maps

Side Gable bungalow (4)

892 Old Sackville Road, date unknown (viewpoint), Dec. 2019

808 Old Sackville Road, date unknown.
Image: Google Maps

876 Old Sackville Road, dates from at
least 1958(viewpoint).Image:GoogleMaps

847 Old Sackville Road, dating from at
least 1952(viewpoint).Image:GoogleMaps

1259 Old Sackville Road, datdate
unknown, Sept. 2019

1265 Old Sackville Road, dating from at
least 1970 (viewpoint).Image:GoogleMaps

16 Melham Drive, dating from at least
1959 (viewpoint). Image: Google Maps

Mid-century homes (1)

964 Sackville Drive, dating from at least 1970 (viewpoint). Image: Google Maps

41 Connolly Road, dating from at least 1962 (viewpoint), Dec. 2019

50 Judy Avenue, dating from at least 1976 (viewpoint), Sept. 2019

74 First Street, dating from at least 1976, Sept. 2019

Mid-century homes (2)

47 Judy Avenue, dating from at least 1976 (viewpoint), Sept. 2019

61 Judy Avenue, dating from at least 1978 (viewpoint), Dec. 2019

15 Judy Avenue, dating from at least 1975 (viewpoint), Dec. 2019

77 Judy Avenue, dating from at least 1978 (viewpoint), Dec. 2019

Early Settlement

Village of Middle Sackville

Early Subdivisions

Millwood

Twin Brooks/
Sunset Ridge

Granville Ellis House, 1039 Old Sackville Road, built in 1917. Image: Google Maps

Cuthbert Ellis House, 1111 Sackville Drive, circa 1948, Aug. 2019

Robert & Wendy Ellis House, 1107 Sackville Drive, constructed in 1963, Aug. 2019

My eldest sister lives in a home similar to the one pictured, constructed circa 2000. (Image: Aug. 2019, 177 Loggen Road)

Hefer Properties, 17 units, pre-1984, 993 Sackville Drive, Sept. 2019

Victoria Place Apartments, 40 units, pre-1984, 979 Sackville Drive, Sept. 2019

Millwood Place (Senior), 59 units, c. 2010, 114 Millwood Drive, Sept. 2019

Sunset View Apartment, 64 units, c. 2015, 119 Hanwell Drive, Sept. 2019

53 units, c. 2018, 310 Stokil Drive, Dec. 2019

Townhouse, c. 2010, 160 Beaverbank Road, viewpoint.ca

Sunset Ridge Townhouse, c. 2014, 212-218 Darlington Drive, Sept. 2019

Sunset Ridge Townhouse, c. 2018, 45-51 Crossfield Ridge, Sept. 2019

Sunset Ridge Semi-detached, c. 2012, 166-168 Darlington Drive, Sept. 2019

Twin Brooks Semi-detached, c. 2017, 46-48 Rafting Drive, Sept. 2019

Informal semi-detached, dating from at least 1955, subdivision date unknown, 12 Jubilee Lane, Sept. 2019

Semi-detached Early Millwood, c. 1986, 60-62 Waterwheel Crescent, Sept. 2019

Millwood Semi-detached, c. 2002, 33-35 Yarding Court, Sept. 2019

Sackville Estates mobile home, c. 1975, 49 Stanley Street, image: viewpoint.ca

Century Park Mobile Home, c. 1987, 6 Boutillier Drive, Sept. 2019

Sackville Estates mobile home, c. 2005, 54 Brook Street, image: viewpoint.ca

33 Connolly Road, dating from at least 1941 (viewpoint), Dec. 2019

847 Old Sackville Road, dating from at least 1952 (viewpoint), Image: GoogleMaps

876 Old Sackville Road, dates from at least 1958 (viewpoint), Image: GoogleMaps

1268 Sackville Drive, dating from at least 1963, Image: Google Maps

1313 Sackville Drive, dating from at least 1966 (viewpoint), Image: Google Maps

74 First Street, dating from at least 1976, Sept. 2019

Pre-Millwood Bungalow, c. 1978, 16 Loggen Road, Sept. 2019

326 Millwood Drive c. 1988 (viewpoint), Dec. 2019

Bungalow, Late Millwood, c. 1999, 16 Bucheron Crescent, Sept. 2019

Lawson Estates Bungalow, c. 2011, 63 Claudia Crescent, Sept. 2019

Lawson Estates Bungalow, c. 2012, 43 Claudia Crescent, Sept. 2019

63 Kindling Crescent, dating from at least 1991 (viewpoint), Sept. 2019

6 Vista Drive, dating from at least 1977 (viewpoint), Aug. 2019

61 Judy Avenue, dating from at least 1978 (viewpoint), Dec. 2019

63 Kindling Crescent, dating from at least 1991 (viewpoint), Sept. 2019

15 Judy Avenue, dating from at least 1975 (viewpoint), Dec. 2019

Early Millwood Split-entry, c. 1985, 191 Beaverbank Cross Road, Sept. 2019

Early Millwood Split-entry, c. 1986, 96 1992, 66 Millwood Drive, Sept. 2019

Millwood Split-entry, c. 1992, 66 Millwood Drive, Sept. 2019

Late Millwood Split-entry, c. 1999, 99 Bucheron Crescent, Sept. 2019

63 Kindling Crescent, dating from at least 1991 (viewpoint), Sept. 2019

Two-storey, Late Millwood, c. 2000, 16 Yarding Court, Sept. 2019

Two-storey, later Millwood, c. 2004, 16 Yarding Court, Sept. 2019

Two-storey Twin Brooks, c. 2010, 134 Chequamegon Court, August 2019

Two-storey Lawson Estates, c. 2017, 18 Claudia Crescent, Sept. 2019

97 Connolly Road, dating from at least 1930 (viewpoint), Dec. 2019

33 Connolly Road, dating from at least 1941 (viewpoint), Dec. 2019

75 Beaver Bank Cross Road, dating from at least 1944 (viewpoint), Sept. 2019

35 Connolly Road, dating from at least 1947 (viewpoint), Image: Google Maps

1237 Sackville Drive, dating from at least 1953 (viewpoint), Image: Google Maps

1271 Old Sackville Road, dating from at least 1959 (viewpoint), Sept. 2019

67 First Street, dating from at least 1963 (viewpoint), Sept. 2019

47 Judy Avenue, dating from at least 1976 (viewpoint), Sept. 2019

900 Old Sackville Road, date unknown, Dec. 2019

6 Jubilee Lane, date unknown, Image: Google Maps

Granville Ellis House, 1039 Old Sackville Road, built in 1917. Image: Google Maps

1919

1929

1939

1949

1959

1969

1979

1989

1999

2009

2019

Pre-Millwood

Early

Mid

Late

Post-Millwood

1.5-Storey

Split-entry

Split-level

Bungalow

Mobile Home

Semi-detached

Townhouse

Apartment

Middle Sackville - Housing types over time

Appendix C: Community Literature Review

The resources listed below are a selection of site-specific literature, which were useful in determining community objectives and programmatic areas. These resources also highlight key needs and priorities of the community and were used in lieu of active community consultation. These annotations note the nature of each source, and how it was used toward thesis development.

CBCL. "Sackville Rivers Floodplain Study - Phase II," 2017. https://www.halifax.ca/sites/default/files/documents/business/planning-development/FinalReport.SRFS_.Phase2_.12April2017.pdf.

A study completed in 2017 by CBCL engineers, consulting for the Halifax municipality. The last study of the floodplains was conducted in 1980, and with worsening flooding, particularly in areas of the Sackville River, the river system needed to be reassessed. Scope of the study includes all of the watersheds of both the Sackville and Little Sackville Rivers, and highlights key moments along their courses. Hydrological studies, flood modelling, and recommendations for mitigating/managing future flooding event potential are all included in the report. For this thesis, the document has been a key resource regarding the health of the rivers, potential problem areas, and design responses which might support better resiliency against future floods.

EDM, and Gordon Ratcliffe Landscape Architects. "Sackville Greenway Multi-Year Development Plan," 2011. <http://sackvillerivers.ns.ca/wp-content/uploads/2012/04/2011-Nov-Sackville-Greenway-Plan1.pdf>Sackville-Greenway-Plan1.pdf.

Prepared in 2011, this final report details recommendations for each stage of the proposed Sackville River Greenway project – the first stages of which have since been constructed. Prepared by Environmental Design and Management Limited in collaboration with Gordon Ratcliffe Landscape Architects, the document was submitted to the Sackville Rivers Association, an organization which has been a major advocate for the river system since the late 1980s. The proposal incorporates nature conservation, active transportation, recreation and education into one cohesive scheme along the entire length of the Little Sackville River. The location of future paths are mapped, along with recommendations for which types of paths are appropriate in which areas. The Greenway proposal would have hugely positive implications for the Millwood community when it is eventually fully realized; this thesis has integrated part of the Millwood

portion of the Greenway into this thesis proposal, and has elaborated on how this would fit with other features working towards the community objectives.

Halifax. “Middle – Upper Sackville & Lucasville Vision,” 2009. <https://www.halifax.ca/sites/default/files/documents/about-the-city/regional-community-planning/MiddleSackvilleFinalVision.pdf>.

This document engaged residents from three neighbouring communities of Middle Sackville, Upper Sackville and Lucasville. The intent was to imagine what the communities should look 25 years in the future – the year 2034. Different zones of the large vision area, with slightly different needs are identified on a map. A wide range of topics are covered in the document, including community and commercial amenities, transportation, land-use and infrastructure, greenspaces and nature conservation, and emphasis on services for seniors and youth. Though this document is about a decade old, many of the concerns raised have still not been adequately addressed in the community. For the thesis, this document was extremely useful in identifying programmatic areas which the community recognizes as areas of need. The mapped zones also affirmed the appropriateness of the thesis study site as being a cohesive neighbourhood with a set of concerns particular to its area.

McCallum Environmental Ltd. “The Evaluation of Wetland Restoration Potential within the Sackville River Secondary Watershed,” 2013. https://novascotia.ca/nse/wetland/docs/Wetland_Restoration_Potential_in_the_Sackville_River_Watershed_Pages1-60.pdf.

A study completed in 2013, by McCallum Environmental, commissioned by developers of the Twin Brooks subdivisions. The intent of the study “was to identify cost effective, practical and ecologically significant wetland restoration opportunities within the Sackville River Secondary Watershed.”²⁰⁰ The report maps and includes documentation of about three dozen areas of potential wetland rehabilitation. In the several years since this study was conducted, none of the identified spots within the study area seem to have received any rehabilitative actions – however, the new Twin Brooks developments seem to have largely avoided areas of wetland potential. This report served to identify a few areas of viable wetland rehabilitation within the sub-design site and informed the zoning and infrastructural planning proposals for the site as per Chapters 8 and 9.

200 McCallum Environmental Ltd., “The Evaluation of Wetland Restoration Potential within the Sackville River Secondary Watershed,” i.

Stantec. "Quantifying the Costs and Benefits of Alternative Growth Scenarios: Halifax Regional Municipality, Nova Scotia, Final Report," 2013. <https://www.halifax.ca/sites/default/files/documents/about-the-city/regional-community-planning/HRMGrowthScenariosFinalReportJuly82013.pdf>.

This report was prepared for the Halifax municipality by Stantec in 2013. It assesses different community resources and potential pressures on each type within various city growth scenarios. The report assesses performance of existing community amenities and identifies areas of need. For example, libraries in Sackville are already underserved for present populations – with growth of the community, this source would be under significant strain. These identification of existing resources and future needs – for both Halifax as a region, and separate communities within the metropolitan area – helped to inform and prioritize programmatic areas for the study site.

Thompson, Katherine. "Women's Perspectives on Suburbs and Social Contact: A Case Study in Lower Sackville, Nova Scotia." M.P.S., Dalhousie University (Canada), 2009. <http://search.proquest.com/docview/305049752/abstract/3AD1AB6B791A4276PQ/1>.

This 2009 master of planning thesis by Katherine Thompson studies the social aspects of living in suburban communities for women – with a case study specifically centred in Lower Sackville. The thesis includes interviews and discussions with a test group of local residents. The document offers insight into life in the community, as well as identifying gaps in amenities and services – which are often noted by the respondents. This document was incredibly helpful in assessing areas for potential future programming in the study site, and along with the Community Vision plan gave the most clear representation of community-identified needs.

Appendix D: Heritage Character Statement

Description of Place:

The Millwood subdivision is located in Middle Sackville, at the periphery of the greater Halifax area. Largely constructed after the mid-1980s, the pre-fabricated Kent Homes in Millwood represent built forms common in Canada in the late twentieth century. The development of Sackville as a satellite community speaks to the growth history of the city of Halifax and represents patterns of suburban development which might be observed in many places across the country. Sackville is positioned north of the Bedford Basin, and is a reasonable commuting distance to both Halifax and Dartmouth. Before Millwood, the area was active with farming and logging, with a sparse population dotted across family farms. Millwood is located along the valley of the Little Sackville River, which winds its way between the subdivision homes. Along with the floodplains and watersheds of the Little Sackville River, Millwood also has wetland areas. The community is primarily residential, with a small smattering of amenities such as schools, convenience stores, and churches. Most amenities must be accessed in Lower Sackville. Today, Middle Sackville continues to grow, in largely greenfield development, extending Halifax's sprawl farther and farther from the city centre. The site has been defined by boundaries of neighbourhoods – largely determined by major roadways. These being Highway 101 at the south, Beaverbank Road at the east, the Margeson Road highway exit at the west, while along the north portion of the site the area is bounded by undeveloped woods and old rail tracks. Near the centre of this study area is Valleyfield Farm, which has been the home and livelihood of my family for over two hundred years.

Heritage value:

Historical: Sackville has a long history of being the 'back door' of Halifax, and transportation has always been an important theme in this community. Most of its buildings date from the second half of the twentieth century (with an increasing amount from the twenty first) and its earliest extant structures are from the first half of the 19th century. The urban form and property divisions have their origins in the settler grants distributed across this swath of land in the mid-eighteenth century. But patterns of use predate British settlement of Halifax. The Sackville River valley has been a route across the province for centuries. Acadians established a trail following the Sackville River to journey between the Bedford Basin and the Minas Basin. This trail was blazed along an even earlier portage route used by the Mi'kmaw people. This route is now called the Old Sackville Road, and it is one of the earliest roads in the province. A section of this route from Halifax to Windsor passes through the study site – and surviving historic buildings are scattered along it. The community was largely agricultural, with logging also constituting a main industry for the area. Along both the Sackville River, and its tributary, the Little Sackville River, sawmills were built. Two of these sites still exist in the Middle Sackville area, though both businesses have evolved considerably. One of these is Barrett's Lumber, located at the northeast corner of the identified study area. Valleyfield Farm is another evolved business, which still operates today but dates back to the early history of Middle Sackville. Past patterns and histories have few physical traces – many remain in name only. For example, the new apartment building at Melham Drive is named Linda Suites after Herlinda Oland, while community facilities in Lower Sackville bear the name "Acadia". Millwood itself, and many of its street names reference its logging past.

Though not one of the land-granted settlers of the site, the Oland family had a prominent role in the history of the area. The Olands were a family of brewers in Dartmouth, (whose beer is still produced) one Oland son moved to Sackville, where he purchased a farm along the road to Windsor. Over time, the brewery and the family acquired more and more land, expanding the farm which would eventually come to be called Lindwood. The majority of the land where Millwood is developed was purchased from the Oland family after the construction of Highway 101 in the 1970s quashed their plans to expand their pastures farther south. A study in the 1960s which identified Sackville as an ideal area for residential growth for Halifax initiated the construction of the highway and triggered the rapid succession of subdivision developments across Sackville. When and how the Millwood area developed reflects these conditions and speaks to the larger patterns of development across the country. Millwood, and the innumerable systems of suburbs in Canada, have become a major part of our national culture and identity.

Architectural: Presence of historic homes and churches lends an architectural legacy to Middle Sackville, and represents the vernacular forms and materials of Nova Scotia. Two sites within the study area (but outside the design sub-area) have municipally designated heritage status – these are St John the Evangelist Anglican Church and Lindwood House, both located along Old Sackville Road. Within the subarea, Barrett’s Lumber yard presents the greatest potential for built heritage. The Barrett family has operated a logging business there since 1927, and the various structures and mill equipment range in age. A handful of small houses near the intersection of Millwood Drive and Beaverbank Road likely pre-date 1960 (exact dates not known). Other significant buildings in the design sub-area may include the two schools: Millwood High School, and Millwood Elementary, dating from 1989 and 1988, respectively. Both use red brick, a material otherwise not common in Millwood. The elementary school is austere, its volumes almost entirely devoid of ornament apart from minimal use of metal elements and concrete windowsills and lintels. The design of the high school is more expressive and presents features reflective of both Brutalism and Postmodernism. The school is clad in a combination of horizontal brick and a textured stone-look concrete, framed by vertical coursings of brick. Multiple masses intersect the main volume of the school and create overhangs at entrance points. From the exterior, these entrance ways feel dark and compressed – but skylights in key public spaces (including the main staircase and the cafeteria) bring in natural light and buoyancy to the otherwise heavy spaces. Brick is carried throughout the interior of the school. A gymnasium is housed in another volume at the rear, connected by ramped interior space. Another notable building for the subsite is the Crossroad Co-operative housing complex, which dates from the late 1980s, and is quite unique for the area. It is a rare example of multi-unit dwellings from the Millwood era, and the only co-op. Architecturally, its wood cladding and 2-3 storey gable roofed volumes make the structures exceptionally sympathetic to both the built form of Millwood, and the vernacular typologies of historic Sackville. Mature trees, and articulated rooflines soften the visual impact of this large complex. The seniors’ residence at Millwood Place is a more recent multi-unit dwelling which also seems to nod to its historic context. The selected sub-area also encompasses a wide cross-section of the typologies of Millwood – from early Millwood streets like Waterwheel and Noria with their single detached split-entry homes punctuated regularly with clusters of semi-detached dwellings, to the hilly neighbourhood of mobile homes at Century Park, to the two-storey houses popular in the late Millwood era around 2000 (like Rossing and Larrigan), to the diversity of the recent Twin Brooks developments which range widely

in scale and dwelling size, and may be anything from a large single detached two-storey home (like those on Gallery Crescent), to a modest row of single-storey townhouses (as seen on Fescue Court), or walls of tall, imposing semi-detached homes. Most buildings are clad entirely in vinyl siding, (with a rarer few having brick accents) which evokes the wood cladding of pre-subdivision homes.

Environmental: The built form of Millwood speaks to its history. Street patterns and housing types reflect suburban planning typical in Canada in the late twentieth century. Road design speaks to the prioritized role of cars to the life of the community. Previous property divisions, including some loyalist grant lines, are still legible from the bird's eye viewpoint – these lines on the landscape express the increments in which the site has been converted from farmland to subdivision. Parcels being purchased and developed over time, the course of the river and the reach of its floodplains, and the undulating topography of the site have dictated Millwood's seemingly sporadic network of streets. The Little Sackville River, its watershed, its river valley, its floodplains, its waters, and its banks are among the most significant of any attributes of the site. The forest-like character of Millwood has been slowly undermined over time – the river, its tributaries and wetlands have played a protective role in the retention of most of the wooded areas as we see today. In developable areas, thin swathes of trees give an illusion of privacy and bely the increasingly urban character of Middle Sackville. Ultimately, access to, and interaction with the areas of natural heritage within Millwood are extremely limited. Much of the area around the river is swampy marshland which would require appropriate infrastructure to allow pedestrian access without damaging its sensitive ecologies. Some pedestrian pathways connect streets to one another, two such pathways (near each of the schools) cross the river and create desirable walking destinations. The hills provide vistas – and also take them away – as you traverse through Millwood. From high points, Middle Sackville seems to be comprised of an unending series of green shrub-covered hills dotted with little boxes; the best view is from the cemetery on what was once part of the Olands' farm.

Character defining elements of the subsite:

Physical characteristics of the site's geography, including: the Little Sackville River and its river valley, wetlands and marshes, the floodplain zones, the hilly topography of the site, Feely and Little Lakes and the undeveloped wooded areas around the community, echoed in the minimal swathes of trees retained between developments.

Millwood's built form, and almost exclusively residential character, representative of late twentieth patterns of century development, demonstrated in five phases of growth, which encompass a range of housing typologies: Early subdivision in Middle Sackville (Pre-Millwood), Early-, Mid-, and Late-Millwood building phases (in succession from the mid-1980s to the early 2000s), Twin Brooks and Sunset Ridge Developments (Post-Millwood).

Evolved businesses which date back to early days of Sackville, including Barretts Lumber and Valleyfield Farm, and express the agricultural and industrial past of the site.

Historic architecture of Middle Sackville, including: early churches, remnant early (pre-1960) homes (within design sub-site, these are mostly located near the intersection of Millwood Drive and Beaverbank Road), as well as pre-Millwood industrial remnants such as those that may be found on the Barretts Lumber grounds.

Aerial indicators of past patterns of use, including: settler grant lines and property divisions visible in subdivision development phases, scars on the landscape left by lumber yards and quarries, and heavy modifications to the course of the Little Sackville River.

Millwood's streets, which speak to its patterns of development, notably: Beaver Bank Cross Road, Waterwheel, Noria as some of the very earliest Millwood development streets, Millwood Drive as a main artery/route for the subdivision, Penstock as an early example of infilling and intensification of residential areas, and, the patterns of cul-de-sacs and crescents. The subdivision exhibits a pattern of earlier roads which have been extended at later dates with further development phases. Earliest example is Loggen, but Jackladder and Rafting are more recent examples where housing timeframe is disparate along the street. Pattern of dead-ends left, seemingly with the intention of later extension including Jackladder, Rafting (in two directions), Caddie (in two directions), Larrigan, and Flume.

Emphasis on the role of automobiles evidenced in the road design and lack of pedestrian infrastructure in the community, (as well as the prevalence of used car dealerships in Sackville at large) including: sidewalk in early/mid Millwood limited to one side of main connecting roads (eg. Millwood Drive, Beaver Bank Cross Road), presence of traffic lights only at entrances to Millwood subdivision, most intersections lacking crosswalk infrastructure, blind crests and sharp turns which create serious pedestrian safety issues, presence of large driveways, garages, and wide roads which accommodate street parking.

Evidence of shifts in attitudes toward pedestrian use of the community include: increase of pedestrian pathways which connect cul-de-sac endings and sometimes lead to parks in Late- and Post-Millwood developments, increased presence of sidewalks in Late-Millwood/Twin Brooks developments (still only on one side of the street).

Patterns of community life, demonstrated in sites such as the Millwood Commons parks, pathways connecting streets and crossing the rivers, the Vineyard church, café and ice cream hut, Avery's Farm market, G's Convenience Store, notable missed opportunities such as spaces earmarked for never-constructed parks. Less tangible patterns such as a long history of making homes in the family-oriented community of Middle Sackville, presence of informal businesses within homes recalling historic live-work patterns of family businesses.

Unique architectural components of the community, such as: Millwood High School, Millwood Elementary, Crossroad housing co-op (early townhouse typology), Millwood Place seniors' residence (the first apartment building within Millwood Proper).

Common typologies, and features/elements of Millwood's typical suburban homes, including: homes of typically 1 or 2 storeys, vinyl cladding which recalls the wood of traditional vernacular homes, prevalence of the split-entry house type, presence of mobile home neighbourhoods, Pre/Early Millwood use of multi-unit dwelling types (semi-detached, townhouses, apartments) which are seeing a major resurgence in post-Millwood developments.