

MID-SIZED CITIES RESEARCH SERIES

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EVERGREEN

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MAKING SPACE FOR CHANGE

One doesn't have to look far to notice the rate of change across the world's urban centers. Spurred by mass migration, advancements in technology, and an increasingly interconnected geography, cities are the site of humanity's greatest extremes, where economic power meets abject poverty, and where architectural mastery meets contaminated wasteland. As the hosts of our most complex systems, cities have the greatest potential for transformation—and transforming they certainly are. These shifts can be seen in Canada's changing demographics, housing and mobility needs, industry focus, employment futures, and many other areas.

At Evergreen we do a lot of work in Canada's cities. Over the past year we've seen a particular focus on two key areas: technology and inclusion. Technology refers to the many conversations and initiatives, from across sectors, around "smartness," "openness," and the need for cities to *up* their digital prowess. This trend has been further amplified by the Federal Government's Smart Cities Challenge and the arrival of Sidewalk Labs in Canada's largest city, prompting Canada's municipalities to race towards a smart future. In the cautionary words of Ian Goldin, a leading voice on sustainable development, "when the world changes rapidly, ... you see people being left behind more quickly."¹

Inclusion is the necessary remedy to ensure we get this moment right. Spurred by grassroots movements across North America, such as Idle No More, Black Lives Matter, #metoo, March for Our Lives, and many more, we've seen previously unrecognized voices elevated to influence established leadership in a whole new way. This presents an opportunity for Canadian cities—big, mid-sized, and small—to set an example for others around the world.

Tackling problems successfully requires new approaches that put people at the center, address issues of inclusion, use evidence-based decision-making, and recognize the role of lived experience in shaping and informing policy.

And just how might we lead as Canadians? By putting people first.

Cities are driven by structures and systems of governance, which shape the way we live, work, and play. Governance doesn't simply refer to our federal, provincial, or municipal governments, but encompasses a multitude of stakeholders—public, private, academic, and civic—who inform the future of our cities. While governance should be shared, it is often concentrated in the hands of a few who make important decisions that affect us all. We have heard from people across the country that many of Canada's municipal governance systems are short-sighted, siloed, disconnected from residents, and focused on advancing the status quo, all of which limits the capacity to solve our most complex urban challenges. Tackling problems successfully requires new approaches that put people at the center, address issues of inclusion, use evidence-based decision-making, and recognize the role of lived experience in shaping and informing policy. By investing in and empowering people, we can change the future of Canada's cities.

¹ Boston Consulting Group. Navigating the New Renaissance. November 30, 2016. <https://www.bcg.com/en-ca/publications/2016/navigating-renaissance-interview-with-university-oxford-ian-goldin.aspx>

While it might seem like the obvious approach, cities empowering their citizens is not the norm. And as many of us know, “the status quo is remarkably resilient.”² It takes a multitude of actions, practices, and ongoing commitment to test new ideas, challenge assumptions, and make space for change. Making this transition is an even greater challenge in the mid-sized context, where cities often lack resources and can be skeptical of new voices and perspectives. Many mid-sized cities (MSCs) are experiencing economic restructuring of their industrial pasts, which is, in turn, causing extreme changes in employment options, infrastructure demands, and the labour market. Many MSCs are also facing significant social issues: systemic racism against newcomers, rising rates of mental health issues, drug abuse, and homelessness concentrated in the downtown core, as well as an aging population and the ongoing outmigration of youth.

A crisis is a terrible thing to waste. Times of urgency can also lead to greater things—and they are. Mid-sized cities are seeing a new generation of civic and municipal leaders that are more attuned to the unique assets of the mid-sized city. There is a rising recognition of the benefits of dense living as well as the issues created by sprawl and suburban planning. Mid-sized cities are also the perfect size for maximizing the impact of focused actions. A powerful group of **city-builders** can have a huge influence on the future of their city. It is this group that we aim to support through Evergreen’s Mid-Sized Cities Program—an

CITY-BUILDER:

A person who influences positive change to the cultural, social, environmental, physical and/or economic components of a city to make it flourish.

Good ideas—evidence-based and informed by the lived experience of city residents—are the foundation for planning and policy, and, just as importantly, for the evaluation of what works and why. Canada’s urban stakeholders need the right information and skills to make informed decisions that can lead to the best outcomes.

interdisciplinary initiative to help mid-sized cities thrive. By working in partnership with municipal staff, elected officials, private sector, civic leaders, residents, and academics, we are advancing new perspectives of knowledge, learning, and collaboration to shape the future of our cities.

Why focus on knowledge, learning, and collaboration? Good ideas—evidence-based and informed by the lived experience of city residents—are the foundation for planning and policy, and, just as importantly, for the evaluation of what works and why. Canada’s urban stakeholders need the right information and skills to make informed decisions that can lead to the best outcomes. Capacity building and training (i.e. site visits, learning exchanges, webinars, and workshops) can equip leaders with the knowledge and tools best matched for 21st century demands. In turn, these leaders are able to gain empathy, empower residents, and deepen relationships with unlikely partners to foster new forms of problem solving.

² Baumgartner, Frank R. 2009. “Rethinking Policy Change,” in *Lobbying and Policy Change: Who Wins, Who Loses, and Why*, pp. 254-275. Chicago: University of Chicago Press.



Building on these three areas, we've launched a variety of initiatives within Evergreen's MSC Program.

The **Mid-Sized Cities Research Series** offers a platform for researchers to publish their work in a format that's geared towards Canada's city practitioners. Through our monthly column in *Municipal World* magazine, contributors are able to share their work with municipal staff and elected officials across the country. The series was created after hearing from practitioners in MSCs that they don't have access to the data, knowledge, case studies, and policy analysis that applies to their unique context. Over the past two years, we've received contributions from over 30 academics, representing more than 20 research institutions from across Canada. We're also piloting an **Age Friendly Working Group** in partnership with the Ontario Age-Friendly Communities Outreach Program to facilitate collaboration and learning between researchers and practitioners, focusing on specific vulnerable populations and policy issues.

The MSC Program is anchored around an annual **Mid-Sized Cities Researcher + Practitioner Roundtable** which brings together MSC practitioners and researchers to learn through deep-dive sessions on key topics such as data and technology, Indigenous partnership-building, and newcomer supports, among others. We also integrate the local perspective into the Roundtable's design through community tours and a free public event delivered in collaboration with local partners and media in London. This year, we are bringing together a small cohort of municipal staff and Indigenous leaders from across Canada as part of the inaugural **Mid-Sized Cities Learning Exchange** to work on complex urban development issues by learning from one another through a six-month coaching program and two-day site visit.

To more effectively empower the broader community across mid-sized cities, we launched the Civic Incubator to support emerging city-builders to have a greater impact. Through a platform that provides mentorship,

celebration, experimentation, networking, and access to resources, the Civic Incubator enables the power and capacity of the grassroots—the often forgotten component of governance—to influence and participate in city decision-making. As the “users” of their cities, people need to be at the center of the policy-making process to ensure we create the communities that we want to live in. The program is well underway in Hamilton, and in its early phases of development in London, Ontario. Hamilton has been a critical part of the MSC Program; through our community storefront space at 294 James Street North, we have been able to test new approaches to engagement and gain knowledge through collaborating with city staff, community groups, residents, and local businesses. Through re-

search, learning, and partnership development, these initiatives allow us to work with the range of city-builders and stakeholders that influence, or should be influencing, the future of Canada’s cities.

RESEARCH SERIES SUMMARIES

This year’s Mid-Sized Cities Research Series highlights important conversations and trends underway in Canadian cities: our urban population is growing, leadership is changing, municipalities need to be smart and open, and inclusion is a must, not a nice to have. The 10 discussion pieces, prepared by academics from across Ontario demonstrate these



This year's Mid-Sized Cities Research Series highlights important trends happening in conversations surrounding Canadian cities: our urban population is growing, leadership is changing, municipalities need to be smart and open, and inclusion is a must, not a nice to have.

perspectives through the lens of Canada's mid-sized cities, with the goal of supporting Canada's city-builders in creating the inclusive, innovative, and regenerative cities of the future.

New Civic Leadership for Mid-Sized Cities: Pillar Nonprofit Network in London

explores the theory and practice of "new civic leadership". Different from traditional municipal models, this leadership approach values holistic community visions, multi-sectoral collaboration, and broad-based public engagement in shaping the city's future. While much of the research remains focused on the largest, global cities, Michelle Baldwin and Neil Bradford argue for closer attention to evolving patterns of civic leadership in mid-sized cities. To make the case, they profile the history and achievements of London Ontario's Pillar Nonprofit Network. Committed to inclusion and innovation, Pillar deploys various strategies for community impact including social finance, shared space for social innovators, community innovation awards, and nonprofit/governance capacity building.

With the ongoing expansion of the Internet of Things, and the launch of Infrastructure Canada's Smart Cities Challenge, municipalities are increasingly leveraging technology to create smarter, healthier and more equitable and sustainable communities. But the range of connected devices and technology choices may be difficult for a municipality to navigate. In **Smart Planning Our Future Cities: Supporting Healthy, Equitable and Sustainable Communities in the Digital Age** Amanda Smith and Geneva Starr argue that developing a Smart City Master Plan can help municipalities identify needs, unite stakeholders and create a roadmap for using technology to achieve community goals. Mid-sized cities may have smaller budgets than larger cities, but can also have the nimbleness to be innovators in using Smart City Master Plans to create our future cities.

Digital Strategies and Smart Technologies in Ontario's Mid-Sized Cities: An Emerging Role for Administrators

Angela Orasch conducts a preliminary assessment of the current governance models of smart city initiatives in Ontario's mid-sized cities. The research looks to assess where smart city strategies are housed, who is in charge of their management, and how these factors may be important considerations for good governance practice. For practitioners, this research offers a preliminary administrative model that a) highlights the importance of the administrative role in smart city implementation and b) suggests a best-practices, public accountability model for the future administration of smart cities.

The Role of Southwestern Ontario Mid-Sized Cities in a Regional and Rural Broadband Partnership

Helen Hambly, Jamie Lee, Geoff Hogan, Tammy McQueen, and Matt Rapke consider the role of mid-sized cities in the evolving architecture of regional broadband infrastructure in Southwestern Ontario and argue that mid-sized cities play an important role in the building and expansion of scalable high-speed internet. Using the case of the SouthWestern Integrated Fibre Technology Inc. (SWIFT) project, they examine the collective action involving mid-sized cities within the emergent broadband network. The findings suggest that MSCs act as an integral part of the aggregation of communities across the SWIFT regional broadband network, creating a regional innovation system through collective action.

Each year, the Canadian government welcomes nearly 300,000 immigrants to the country. Settling largely in the country's "gateway cities" (Toronto, Vancouver, and Montreal), newcomers are attracted to the urban amenities and opportunities found in these larger urban centres. In **A Welcome Place for Newcomers? Immigration and Mid-Sized Cities**, Audrey Jamal examines the current literature on immigration and mid-sized cities and, using the City of Guelph as a case study, provides an overview of the strategies that local institutions in this mid-sized city are using to attract, retain, and support newcomer communities.

The Provincial Policy Statement encourages municipalities to coordinate their efforts with Indigenous communities, and further states that the PPS "shall be consistent with the recognition and affirmation of existing Aboriginal and treaty rights in the Constitution Act, 1982". Since 2004, when the Supreme Court of Canada clarified the Crown's duty to consult and accommodate Aboriginal peoples through a number of cases, the duty to consult and accommodate has been increasingly on the minds of municipalities as they navigate this grey area. Is the duty to consult the framework within which to build those relationships, or is there a broader ethical framework in which to do so? In **Indigenous–Municipal Relations: Beyond Consultation**, Clara MacCallum Fraser addresses the question of how municipalities begin to build relationships with Indigenous communities within whose territory they reside, and begin to move beyond token gestures and acknowledgements, towards deeply meaningful engagement.



Canada's rapidly aging "baby boom" generation has overwhelmingly expressed a desire to age-in-place. But do Canadian communities support the health and wellbeing of older adults? Examining fourteen of Ontario's mid-sized cities, Samantha Biglieri and Maxwell Hartt find that an extremely large proportion of vulnerable adults are living in unsupportive built environments. This means a substantial portion of our potentially most vulnerable older adults are also being limited by, and facing significant barriers in, their physical surroundings. In **Identifying Built Barriers: Where do our Most Vulnerable Older Adults Live in Ontario's Mid-Sized Cities?** they discuss what this means for municipalities and what can be done.

In **Connecting Memories with Nature: Opportunities for Residents of Long-Term Care Facilities in Mid-Sized Cities**, Christopher Fullerton, Liette Vasseur, Kerrie Pickering and Marcie Jacklin demonstrate that mid-sized cities have the opportunity to accommodate elderly citizens in ways that larger cities cannot. They use a case study to illustrate that simple nature activities, such as birdwatching, can be beneficial for residents of long-term care (LTC) facilities. Lower land values allow MSCs to build new facilities near natural habitats, while in large cities space is at a premium and usually not available for these facilities. For planners and politicians, leveraging these LTC facility opportunities in the development of local land use planning policies can attract and retain not only older residents, but also their families looking for a better, healthier life.

Over the last few decades, many of Canada's mid-sized cities have declined or stagnated while large cities like Toronto and Vancouver have flourished. However, more recently, major metropolitan areas have become increasingly unaffordable. Policymakers are now beginning to view mid-sized cities as the key to Canada's future growth. In **Anchors and Diversity: Understanding Decline and Resilience in Canadian Mid-Sized Cities**, Austin Zwick, Nick Revington and Maxwell Hartt explore the role of economic resilience and anchor institutions in the stabilization of population loss and the stimulation of local economic development.

Growth in our mid-sized cities has to be concentrated if it is to be sustainable. In **Visualizing Density and the Drivers of Complete Communities** Ariana Cancelli and Jeff Evenson summarize the methodology and key findings from Visualizing Density – a pilot project created by the Canadian Urban Institute (CUI) to help planners, designers, elected officials, residents' groups and private sector builders better understand density in the context of growth in their own communities. The project used a case study approach to measure and visualize the density of existing communities and explore how the attributes of a complete community can work with density to make great places to live and work.



NEW CIVIC LEADERSHIP FOR MID-SIZED CITIES

PILLAR NONPROFIT NETWORK
IN LONDON

Neil Bradford, Huron University
College and Michelle Baldwin, Pillar
Nonprofit Network



INTRODUCTION

This discussion paper explores new forms of leadership in cities across Ontario. Known as the “new civic leadership,” this approach involves several key features that distinguish it from more traditional models of municipal or urban leadership, which are housed in one sector, focused on a single goal, and hierarchical in decision-making. In contrast, the new civic leadership emphasizes longer-term holistic community visions, multi-sectoral collaboration, and civic engagement. Urban and community change is reframed as an iterative process of learning-by-doing through experimentation, reflection and innovation.

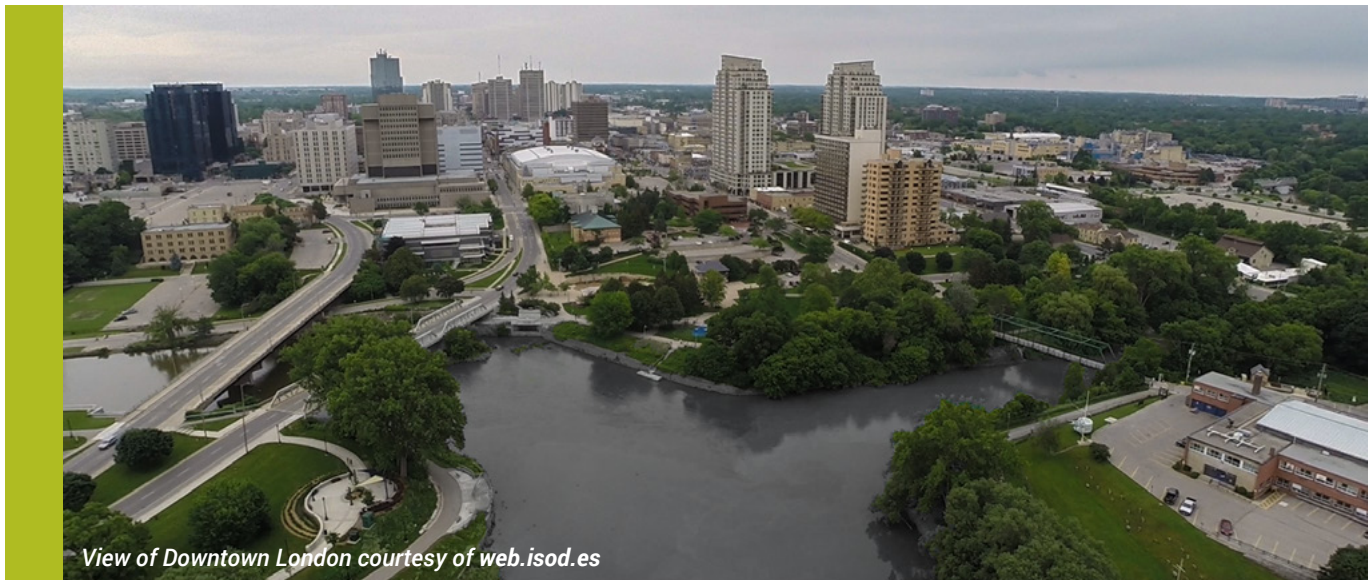
The new civic leadership may be needed most in [mid-sized cities], given the host of challenges these cities confront as well as their relative lack of public policy profile.

Our specific interest is with new civic leadership in mid-sized cities. While much of the research and commentary on this topic continues to emphasize the largest, global cities, we make the case for paying closer attention to evolving patterns of community leadership in mid-sized cities. Indeed, we argue that the new civic leadership may be needed most in such places, given the host of challenges these cities confront as well as their relative lack of public policy profile.

We begin by conceptually situating the new civic leadership in the body of research known as the “New Localism.” We then introduce London Ontario’s Pillar Nonprofit Network as a dynamic illustration of how new civic leadership produces positive change in the mid-sized city.

THE NEW LOCALISM AND CIVIC LEADERSHIP

In their path breaking book *The New Localism*, Bruce Katz and Jeremy Nowak argue convincingly that urban communities constitute “the twenty-first century’s means of solving the problems characteristic of modern life: global economic competition, poverty, the challenges of social diversity, and the imperatives



View of Downtown London courtesy of web.isod.es

Municipalities and their community partners can forge ecosystems to co-design policies, co-govern the economy, and co-create innovations.

of environmental sustainability” (Katz and Nowak, 2018). The shift in the scale of problem-solving from the nation-state to the locality is driven by the changing nature of many contemporary public challenges. Problems once seen as technical and bounded and, therefore, amendable to standardized interventions from upper level governments are now understood to be highly localized in their expression and complex in their causality. Progress depends on the mobilization of local knowledge and community-based networks. While the regulatory and redistributive roles of federal or provincial governments remain important, the New Localism shows that it “is essential to adopt a process of local social discovery and community engagement” (Hambleton, 2015).

From this perspective, cities emerge as *strategic spaces* in a global age where the most imaginative and influential problem-solvers congregate and learn

from one another (Katz and Nowak, 2018). Far from being passive administrative agents implementing upper level government programs, municipalities and their community partners can forge *ecosystems* to co-design policies, co-govern the economy, and co-create innovations. In the global age, cities are situated at the intersection of multiple flows of ideas, people, and capital. Deploying their “network intelligence,” cities can design transformational projects that no government agency, economic sector, or social organization could deliver on its own.

However, to seize the opportunities presented by the New Localism, cities need to “up their civic game.” As Katz and Nowak conclude, “municipalities must grow new sets of leaders and invent new intermediaries and institutions that align with this disruptive era and its heightened importance” (Katz and Nowak, 2018).

The new civic leadership challenge is threefold.

- 1 There is a need for **change catalysts** who help move cities through uncertain times, identifying both the limits of existing institutions and attitudes as well as envisioning and communicating a more inclusive, productive, and sustainable future.
- 2 There is a need for **civic entrepreneurs** who bring the risk-taking approach of business startups or venture capitalists to challenges in the public sphere, leveraging the reinforcing impact of seemingly disparate investments in the city while learning from failure.
- 3 **Institutional intermediaries** are needed to work the “shared spaces” between government, business, and community sectors, enabling the exchange of ideas and resources “among people who rarely interact and entities that often have vastly different missions and organizational cultures” (Katz and Nowak, 2018). Such intermediaries are deft convening organizations; by supplying the common platforms for experimentation and innovation, their impact on the city’s development can be significant.

Importantly, much New Localism research identifies the non-profit sector as uniquely equipped to blend the different elements of the new civic leadership. Embedded in their local community and attuned to its specific assets and capacities, non-profits, by necessity, are boundary spanners and bridge builders. They tackle the city's most intractable problems of social exclusion and rely on collaboration in executing complex initiatives, making strategic choices about where to allocate their scarce resources, when to partner with others, and how to measure collective impact. They nurture an organizational culture of informed risk-taking that aligns internal missions and accountabilities with those of external partners to accomplish important tasks. Non-profit organizations instinctively operate with a "network mindset." As Beth Tener puts it, they "lead with questions not answers . . . trusting that the diverse perspectives of the system can together come to a better solution than any one part could alone" (Tener, 2013).

Non-profit organizations and their volunteers are also adept at channelling government resources—grants, programs, internships, and the like—to local priorities as defined by residents themselves. Responsive to their community and disposed to co-produce solutions with a host of stakeholders (i.e., governments, businesses, educators, and citizens), non-profits can articulate a compelling vision to guide an array of projects and experiments. Such leadership, blending bold vision with discrete deliverables, is aptly termed "strategic incrementalism." Urban regeneration experts Alan Mallach and Lavea Brachman report that this step-by-step approach is especially suited to the inevitably scarce resources and often latent assets of the mid-sized city. As they explain, civic leaders in mid-

Civic leaders in mid-sized cities "should not look to large-scale projects as the drivers of regeneration, but should foster multiple, incremental activities to create a positive climate in which change can flourish ... redevelopment opportunities should be seen as steps toward the vision—and integrated with it— rather than as silver bullets to take the place of incremental steps"

size cities "should not look to large-scale projects as the drivers of regeneration, but should foster multiple, incremental activities to create a positive climate in which change can flourish ... redevelopment opportunities should be seen as steps toward the vision—and integrated with it— rather than as silver bullets to take the place of incremental steps" (Mallach and Brachman, 2013).

In sum, the growing body of New Localism research puts cities on the cutting edge of innovation and sees the non-profit sector as well-positioned for civic leadership. Moreover, the New Localism is resolutely place-based. While most research still focuses on the largest, global cities, there is good reason to believe that the teachings of the new civic leadership apply with equal or even greater force in the mid-sized city (Bradford, 2014).

Three factors are salient:

1. The *complexity of the challenges* faced by mid-sized cities, such as managing industrial transformation from traditional manufacturing structures to the knowledge economy, adjusting to a rapidly evolving ethno-racial citizenry, and shifting urban growth dynamics from a sprawl to a more compact, sustainable form, are all beyond the reach of any single actor and, therefore, demand joint approaches.
2. Mid-sized cities tend to *exist under the public policy radar*. Federal and provincial governments typically focus their attention (and resources) elsewhere—i.e., on the so-called superstar cities that attract global interest. Local civic leaders are pivotal in filling the policy vacuum through place-based insights and collective action.

3. Mid-sized cities may be the *optimal size and scale* to achieve the productive collaboration that is the watchword in today's knowledge economy and diverse society. With multiple opportunities for social interaction and civic engagement, mid-sized cities can build trust and embrace a common narrative about the city's destiny.

For these reasons, analysis of civic leadership in mid-sized cities is timely. Rather than relying on likely outdated images of risk adverse and insular communities, mid-sized city research may reveal more networked, adaptive leadership. The New Localism framework clearly explains why such new civic leadership is relevant today. Still mostly unanswered are the follow-up questions about whether and how the leadership challenges are addressed in the mid-sized city. To begin to fill the gap, we explore the nearly two decades of leadership activity carried out by the Pillar Nonprofit Network in London.



Pillar Voluntary Sector Network was created in July 2001—International Year of the Volunteer—after a community summit identified the need for an organization to build partnerships and enhance the credibility, capacity, and accountability of the non-profit sector in London. Inspired by the Calgary Chamber of Voluntary Organizations, Pillar began with a community vision of the three core sectors or pillars (government, business, and non-profit) joining together to solve complex problems, and with an organizational mission to bridge the silos that often prevented such cross-class collaboration.

Office space was secured in the London Public Library, and in 2003 Pillar was incorporated as a non-profit organization, receiving official Canadian charitable status in 2004. With support from the Ontario Trillium Foundation beginning in 2001, a website matching volunteers with organizations was created. The organization was governed by a Board of Directors, with representation from each of the three core sectors, and led by an Executive Director working with a small team of volunteers.

In its early years, Pillar leaders sought to translate the network's bold vision into community practice. In 2004 Pillar organized the first London Leadership Conference, attracting more than 60 leaders from the three core sectors to a retreat in Grand Bend for intensive dialogue on challenges and opportunities in London as a mid-sized city facing structural transformation in its economy and generational change in its leadership. With a focus on "systems change" (the root causes of social problems) and cross-sectoral collaboration, the conference framed an ambitious direction—one that spoke to the particular organizational milieu of the mid-sized city. A 2006 City of London social policy document identified the gap in the civic landscape:

While each of the 'three pillars' -- public, private, and voluntary sectors -- has clear roles in the success of local efforts to identify and respond to social issues, one of the notable gaps in our community is the absence of a coordinated community body that guides this work. While other communities across the country may have social planning councils or similar mechanisms that work to address broader social issues (such as poverty or quality of life) in a more coordinated way, this does not exist in London (City of London, 2006).

At the same time, however, Pillar leaders recognized that as a small, fledgling organization with limited resources and a modest profile it was important to

set achievable goals and build community credibility, as well as internal capacity, through doable projects. They reasoned that systems change might come about in a more step-by-step process over time.

It followed that between 2004 and 2007, a time of seeking funding and encountering organizational challenges, Pillar made key decisions about its ongoing priorities and future goals. While Pillar's emergence was facilitated by the federal government's Voluntary Sector Initiative and related pan-Canadian voluntary associations, it was decided that further organizational growth required greater engagement at the local level with the municipal government and London citizens. Presentations were made to City Council, ambitious membership goals were set, and community consultations were launched to clarify the vision and focus the mission.

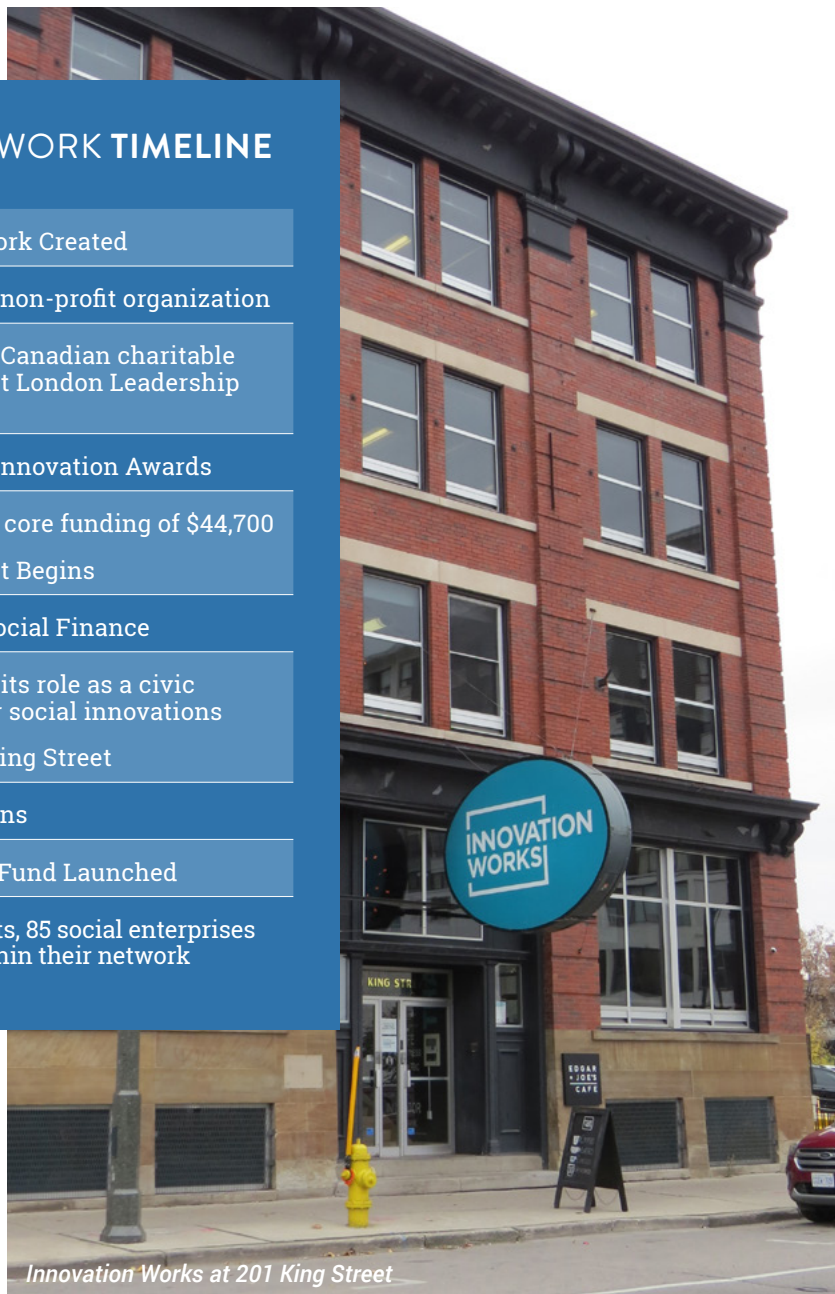
The local engagements delivered four significant returns for Pillar:

1. Following initial rejections by the City of London, Pillar, in 2008, received annual core funding of \$44,700.
2. The community consultations streamlined Pillar's vision and mission statements in ways that made them resonate more with citizens.
3. Pillar emerged from this period of organizational reflection with a focused mandate "to strengthen the impact of the non-profit sector" as the foundation "for a more inclusive, engaged and vibrant community."
4. In 2014, it began to assess and evaluate activities through the lens of measurable outcomes and community impact rather than impressions of effectiveness based on inputs or outputs. With this core mission established and having embedded itself in the London fabric, Pillar began to strategically build out its role as a civic leader and catalyst for social innovations.

Pillar began with a community vision of the three core sectors or pillars (government, business, and non-profit) joining together to solve complex problems, and with an organizational mission to bridge the silos that often prevented such cross-class collaboration.

PILLAR NON PROFIT NETWORK TIMELINE

2001	Pillar Voluntary Network Created
2003	Pillar incorporated as non-profit organization
2004	Pillar receives official Canadian charitable status & organized first London Leadership Conference
2007	1st Pillar Community Innovation Awards
2008	Pillar received annual core funding of \$44,700 Board Diversity Project Begins
2013	First Roundtable on Social Finance
2014	Strategically built out its role as a civic leader and catalyst for social innovations Pillar purchases 201 King Street
2016	Innovation Works Opens
2018	VERGE Breakthrough Fund Launched
TODAY	Pillar has 340 nonprofits, 85 social enterprises and 180 co-tenants within their network



Innovation Works at 201 King Street



Today, it is a voice for over 340 non-profit organizations in London. Significantly, this representational role extends to platforms and tables beyond the voluntary sector. Consistent with the founding aspiration to advance cross-sector collaboration, Pillar's Executive Director is a member of London's major economic development planning process, the Community Economic Road Map. In the same spirit of aligning social and economic priorities, Pillar has partnered with the London Chamber of Commerce to include recognition of corporate social responsibility in the annual Business Achievement Awards. Winning firms demonstrate social leadership in matters ranging from corporate governance, transparency, and civic engagement to charitable donations and sponsorships.

Pillar Nonprofit Network's impressive evolution from its "bold dream" in 2001 to becoming a driver of community change and social innovation speaks directly to key aspects of the new civic leadership. A respected institutional intermediary in London, Pillar

mobilizes civic entrepreneurs to tackle some of the hardest public problems. Consistent with the change theory of strategic incrementalism, Pillar has been an adaptive organization delivering on its ambitious vision with actionable projects focused on the voluntary sector while engaging, where appropriate, the expertise or resources of business, government, and educational sectors. Fine-tuning its mission through practice, Pillar has been a learning organization, externally seeking feedback from the local community and drawing lessons from thought leaders, sectors experts, and other cities' networks, and internally tapping the collective intelligence of its volunteers, Board members, and professional staff.

Over Pillar's "epic journey" the quality and impact of its boundary-spanning civic leadership is best captured through a closer look at key projects. Below we highlight four flagship initiatives, each of which offer innovative ideas and investments to make London a more inclusive and resilient community.

1

**VOLUNTARY SECTOR
CAPACITY: ENHANCING
BOARD DIVERSITY**

A central goal of Pillar is to strengthen the impact of the nonprofit sector and the organizations it supports. To this end, Pillar provides professional development services and opportunities tailored to the varying needs of governance board members, executive directors, project leaders and their teams. In addition to targeted training events, Pillar facilitates networking and information sharing, connects volunteers with aligned organizations, and hosts conferences that connect local agencies with the wider community of thought leaders and innovative practitioners. Created through a partnership with Western's Continuing Studies and Fanshawe College, Pillar's professional development program included multiple workshops on topics such as marketing and public relations, social innovation, risk management, leadership, and strategic planning. Additionally, annual Community Collaboration Forums brought together government, business, academic, and non-profit sectors.

In building community capacity, a priority of Pillar has been ensuring diversity, inclusion, and intercultural competence. Recognizing that closing the gap between board members and the communities they represent and serve is an urgent cross-sectoral challenge, the network has worked systematically toward change. Awarded a \$300,000 federal government grant in 2006, Pillar undertook a two-year study of diversity and inclusion at both the community level and in the specific context of organizational governance. Partnering with equity researchers at Western University and connecting with knowledge leaders in the diversity field such as the Maytree Foundation, the Pillar team worked with 18 boards in London to build better understanding of discrimination within orga-

nizations, barriers to inclusion, and evidence-based strategies for their elimination. Such strategies, it was emphasized, move from the normative or moral argument for diversity to the business imperative of leveraging the broadest possible talent pool in the knowledge-based innovation economy.

Building on these research findings, Pillar recently followed up with a "Reimagining Governance" project in partnership with Ignite NPS Foundation. This project explores the emerging challenges facing boards as they navigate an increasingly diverse society and fast-paced economy while citizens grow increasingly concerned about fair ethnic, racial, gender, and age representation. How can boards manage the tension between traditional accountability and risk management on the one hand, and greater pressures for collaboration and community-wide impact on the other? Does shared and distributed leadership work within existing governance structures and processes, or is fundamental rethinking needed? How can boards reach out to under-represented groups and include their influence in decision-making? The Reimagining Governance initiative takes up the most urgent and difficult challenges facing the non-profit sector and mobilizes its expertise and years of experience to assist organizations in building governance structures and inclusive processes that reflect societal change and generational expectations.

2

**PILLAR COMMUNITY
INNOVATION AWARDS:
SHIFTING THE CIVIC
CULTURE**

For more than a decade, Pillar, with initial financial support from Libro Credit Union, has led a process to recognize outstanding community-building achievements in London. Taking its cue from the Leader-

ship Niagara, Pillar established multiple recognition categories—Innovation, Leadership, Impact, and Collaboration—and recruited arm’s length committees to make the award selections. The Pillar Community Innovation Awards have drawn widespread support: attracting 27 attendees in its earliest iteration in 2004, the event is now a “must attend” not only for leaders from across sectors but for London’s volunteer community. The 2017 celebration drew nearly 1000 people and featured a stellar lineup of unconventional community-builders and changemakers.

Beyond the impressive attendance numbers and celebrations, the enduring value of the Pillar Community Innovation Awards may be their impact on shifting the wider civic culture. London remains a city with the reputation of a rather staid place, not particularly open to change nor welcoming of experimentation and innovation. The Pillar Community Innovation Awards help “deconstruct” such myths and identities, and in shining the light on new voices and unusual successes, they help build—or more accurately, co-create—a very different London community narrative.

This alternative story told through the Pillar Community Innovation Awards tracks the emergence of a vibrant and inclusive London. The awards, consistent with Pillar’s founding vision, draw nominations and award recipients from each of the three sectors and celebrate mutual respect while acknowledging interdependence. Businesses, government, and the non-profits all engage in the process and come together in recognition of organizations that invariably find ways to combine economic, social, and environmental excellence. The Pillar Community Innovation Awards are an important process in allowing Londoners to communicate with one another about the changing make-up of the city, the diversity of its leadership, and the breadth of local talent.

Such cultural representations that capture an evolving and more inclusive urban identity are integral to the spirit and practice of the New Localism. Organiza-

tions such as Pillar that discover compelling ways to bring unusual community successes to the forefront are exercising a sophisticated and impactful form of civic leadership. Over time, they can transform the “community mindset” to one that welcomes positive change and recognizes diverse forms of excellence. The Awards were so popular that a “Community Choice” award was added with overwhelming response.

3

VERGE CAPITAL: INVESTING FOR COMMUNITY IMPACT

The 2009 global financial crisis took a considerable toll on the southwestern Ontario economy. London’s manufacturing sector in industries ranging from auto parts to food and beverage was plunged into a difficult rationalization and restructuring, with negative consequences for thousands of workers and their families. With municipal officials searching for new economic directions, Pillar stepped up in the emerging sectors of social enterprise and social innovation. Gathering policy knowledge from networks and conferences across the province, Pillar hosted an Innovation and Resilience Forum that set forth an innovation agenda for London and began to grow a social enterprise ecosystem for the region. It conducted an environmental scan that revealed over \$40 billion in investible assets in London and the surrounding region that could be tapped for community impact in areas of poverty reduction, environmental sustainability, and inclusive employment, if the appropriate business models and venture capital mechanisms were in place. Through a provincial government initiative, Pillar participated in a multi-city regional social economy strategy for sustainable communities.

These various initiatives came together in the formation of VERGE Capital. The new social investment fund developed partnerships with the local entrepreneurship ecosystem as well as national and provincial experts, including the MaRS Centre for Impact Investing, to leverage existing infrastructure and best-practice approaches. Pillar was the backbone organization for VERGE, supporting a collective effort by London Community Foundation, Sisters of St. Joseph, United Way London and Middlesex, and Libro Credit Union. With financial support from the Ontario government's Social Enterprise Demonstration Fund, VERGE established a \$385,000 Social Enterprise Loan Fund that offered, in addition to capital access, a comprehensive continuum of support (e.g., business advisors/coaches, training, market analysis and feasibility studies, enterprise models) to social enterprise startups on the verge of breakthrough and to more established organizations—thereby covering the non-profit, cooperative, and for-profit sectors in the London region.

With Pillar's strong support, VERGE Capital rapidly became a powerful, place-based institutional intermediary bridging the gaps in capacity and finance between local social entrepreneurs and sources of social purpose capital. In four years it has catalyzed \$4 million of local investment, supporting social enterprises in the food, retail, consumer goods, and education sectors as well as in community impact real estate. The overall community impact includes access to training and employment for persons with disabilities as well as social innovations ranging from increasing child cyber safety to facilitating global access to educational materials and investing in the vitality of disadvantaged neighbourhoods.

Not unlike the Pillar Community Innovation Awards, Pillar's role in VERGE Capital may well be leading to culture shift within the investment industry. By successfully demonstrating the community benefit and economic return from joining business goals with social and environmental progress, VERGE Capital

created new awareness of the value of impact investing in the local places where people live and work. Social enterprise is now on the official economic agenda in London and social finance in London is becoming widely recognized provincially and nationally.¹ With active support from mainstream organizations such as the Small Business Centre, Techalliance, Propel, and LEAP Campus Link Accelerators at Western University and Fanshawe College, the Chamber of Commerce, and the London Economic Development Corporation, social enterprise is now integral to provincial and municipal strategies to secure the city-region's economic and social future.

4

INNOVATION WORKS: CO-CREATING THE FUTURE

The shift in the local economic culture is perhaps nowhere more evident than in the social finance loans and community bond of Innovation Works. Eight years in the making, Innovation Works is London's first co-working and social innovation space, providing flexible office and event spaces in a four-story, 32,000 square foot building in downtown London for over 180 enterprising non-profits, cooperatives and social businesses. Co-tenants share their expertise and skills to move each other's ventures forward. As a community hub and platform for generating ideas and testing concepts, Innovation Works enables transformational change for London.

¹ VERGE Capital was featured in a February 2018 Forbes article entitled "Ontario, Canada Tries Out Impact Investment With A Local Bent And An Experimental Approach" (Field, 2018).

Innovation Works is the physical expression of Pillar's enduring vision of intersectoral collaboration to forge an ecosystem of "inclusive innovation." The process by which it came into existence features several "firsts" for London, with Pillar taking the kind of evidence-based risks required for the transformational change that distinguishes the new civic leadership.

Through the support of a London Community Foundation grant, Pillar worked with numerous community groups and design consultants in the formation of Innovation Works. The building purchase of \$3,550,000 was financed through loans from social investors and grants from community groups and institutional supporters. An additional \$1,000,000 in financing for renovations and debt repayment was raised with VERGE Capital's launch of London's first-ever community bond. Aside from the monetary benefit of reduced debt, this created an extraordinary avenue for every community member to support the creation of Innovation Works. Over 45 individuals and organizations did just that through investments of \$1000-\$500,000.

While there are over 200 co-working spaces in Canada, most are concentrated in large cities. Pillar established a first-of-its-kind affiliation with Toronto's Centre for Social Innovation, Canada's first co-working space and a globally recognized leader in the field of collaborative communities and innovation. This affiliation is intended to strengthen each organization's offerings to their respective communities and create a bridge for new collaborations between social innovators in Toronto and London. Additionally, Innovation Works is part of a co-working passport with The Hive in Vancouver and Impact Hub in Ottawa. The physical space provides non-profits to think more like revenue generating businesses that reflect sustainability. And in return, typical businesses are considering how to build social impact into their business model; in some cases with hopes in becoming a B Corp.

At Innovation Works, Pillar animates the innovation process, strengthening the capacity of individuals and organizations to solve problems of community-wide import. Putting entrepreneurs, businesses, government, educators, and non-profits under one roof and literally removing the barriers between them, Innovation Works is where ideas collide and connect. Reflections from two founding tenants, Fanshawe College and Libro Credit Union, capture the value-add: Fanshawe's Research and Innovation Dean, Dan Douglas, explains that at Innovation Works "we are part of the conversation – colliding with people we wouldn't normally meet and finding great new ways of working – away from traditional silos." Libro Regional Manager Michael Smit finds that Innovation Works is a "place to learn and share, with many different perspectives and approaches stimulating new ways of thinking about our community."



CONCLUSION

New Localism research advances important claims about the role of civic leadership in driving transformational change in cities. Our discussion of London’s Pillar Nonprofit Network has shown how such leadership actually plays out in the specific context of the mid-sized city. With a vision of cross-sectoral collaboration and a mission to advance social inclusion, Pillar has used a variety of instruments and strategies to deliver community impact through a series of reinforcing projects that over time are helping to make London’s civic and investment cultures more inclusive and innovative.

3 KEY LESSONS

From Pillar’s evolving story of civic leadership several key lessons emerge, three of which are most salient. First, impactful organizations must be adaptive, responding creatively and intentionally to changes in their operating environment. Pillar began with a general aspiration to make “system change” but, encountering constraints, it smartly shifted its focus to project-based work in its core non-profit sector as the base for subsequent initiatives of community-wide scale and impact. Second, civic leaders must be rooted in learning organizations open to input and insight from a wide array of constituencies. Pillar’s evolution is full of examples of such lessons informing its evidence-based risk taking—adapting models from other cities, drawing on the lived experience of its own volunteers, mobilizing expert research, and tapping the wisdom of the wider community.

Finally, leading through uncertain times requires resilience. Persistence through the inevitable setbacks when aiming to solve the most complex problems in an inclusive way distinguishes organizations with community impact. As the 2009 global financial crisis battered the London economy and drained the non-profit sector of resources, Pillar stretched itself to lead formation of the social enterprise sector. The foundation was laid for Innovation Works, the transformational project that embodies Pillar’s founding vision and embeds it in the fabric of a city moving forward.

1

IMPACTFUL
ORGANIZATIONS
MUST BE
ADAPTIVE

2

CIVIC LEADERS
MUST BE
ROOTED IN
LEARNING
ORGANIZATIONS

3

LEADING
THROUGH
UNCERTAIN
TIMES REQUIRES
RESILIENCE

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SMART PLANNING OUR FUTURE CITIES

SUPPORTING HEALTHY, EQUITABLE
AND SUSTAINABLE COMMUNITIES
IN THE DIGITAL AGE

Geneva Starr and Amanda Smith,
Canadian Urban Institute



BACKGROUND

This research was conducted as part of the LSNetwork program (formerly LightSavers Canada) run by the Canadian Urban Institute (CUI). For over a decade, LSNetwork has supported the transition to networked LED streetlights and is now also helping communities effectively design and deploy Smart City Master Plans to improve quality of life at work, home, and play. LSNetwork will be publishing a Best Practices Guide for Smart City Master Plan Development that will be available at: <http://www.lsnetwork.org/>.

CONTEXT

The rapid rise of urbanization has, in recent years, coincided with a massive growth in connected devices (or things that talk to the internet). By 2020, it is predicted that 50 billion connected devices will exist (Evans, 2011). With this steady expansion of the Internet of Things (IoT), along with the kickoff of Infrastructure Canada's Smart Cities Challenge, there is significant opportunity for municipalities to empower their communities through technology and connectivity. To be competitive and prepared to respond to emerging urban challenges and opportunities, cities should be investing in their capacity to employ this connectivity to support smarter, healthier, and more equitable and sustainable communities.

Done properly, technological investments in essential infrastructure can lead to substantial community benefits. For example, the adoption of energy efficient

A 2017 study across the United States found that more urban technology projects are implemented and planned in mid-sized cities than in small or large cities.

light-emitting diode (LED) streetlights allows existing streetlighting infrastructure to host a communication network spanning the full reach of a city. This network can become the backbone of smart city services by hosting connected devices and communicating data. Another example is the implementation of smart meters, which forms a network connecting homes across the city. But with an increasing array of technology choices, the full potential of connected devices can be difficult for municipalities to navigate.

Developing a comprehensive Smart City Master Plan can be a proactive process for municipalities to identify their specific needs, unite stakeholders, and outline a roadmap for achieving effective and beneficial deployment of these solutions. The focus of this type of planning is to build a smart city from the ground up, to ensure technology is used to improve overall quality of life, and to address local challenges faced by citizens.

Many mid-sized cities face the challenge of having smaller budgets than larger metropolises; however, they have unique opportunities that position them to lead smart city initiatives throughout Canada. A smaller government and community can enable more conversation between departments and between government and citizens, resulting in a better understanding of true needs as well as the nimbleness to adopt and accept technology quickly. The scale of mid-sized cities also makes them ideal for realizing and measuring the impacts of technology which might be harder to isolate in a larger city. A 2017 study across the United States found that more urban technology projects are implemented and planned in mid-sized cities than in small or large cities (The US Conference of Mayors, 2017). As technology advances, citizens now expect digital solutions to be available. Mid-sized cities can lead this innovation.

The full potential of connected devices, with an increasing array of technology choices, may be difficult for municipalities to navigate.

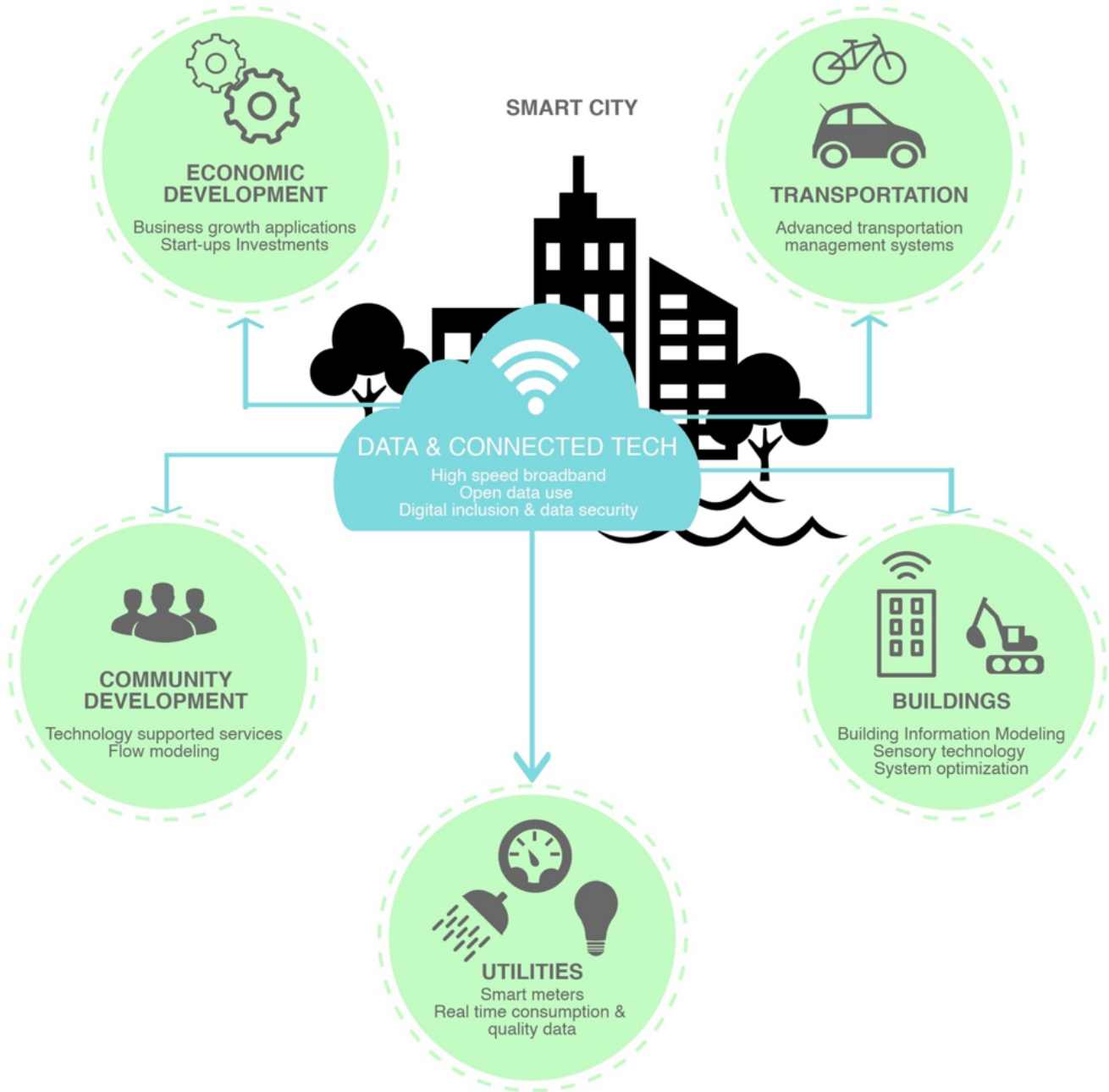
WHAT IS A SMART CITY?

There is no globally recognized definition of a “smart city,” which can add to the complexity of adoption by municipalities. Although early smart city initiatives were largely driven by technology, cities are beginning to shift the authority to citizens and capture this in the evolving definitions. A smart city approach should leverage technology to improve services and is driven by the community need rather than technology. Building a smart city happens from the ground-up, empowering citizens without technology pushing the agenda.

As defined by the LSNetwork, the term smart city is generally used to refer to improving overall quality of life for people at home, work and play through the use of data and digital technology integrated throughout the built environment. The technology is used to provide opportunities for economic development and to enhance urban services, resource conservation, and cost effectiveness. Key focus areas include: fostering innovation in industries and neighbourhood communities; creating and attracting talent; advancing urban infrastructure, transportation and utility performance; and improving community services (LightSavers, 2017). Figure 1 visualizes the components of a smart city and provides example technology solutions for each.



Figure 1: Components of a smart city with example solutions.



WHAT IS A SMART CITY MASTER PLAN?

A Smart City Master Plan identifies locally-significant community stresses, evaluates potential information and communications technology (ICT) solutions, and outlines a roadmap to achieve effective integration of selected solutions. Developing a plan can be a proactive method for cities to understand which, of the seemingly endless smart city solutions available, might successfully provide high social and economic returns.

Dr. Anthony Townsend¹ and Dr. Stephen Lorimer² (2015) describe this type of plan as “attempts to mobilize local stakeholders around visions, goals, and road maps to adapt to [the] external technological and economic pressures, within local social, economic and political constraints.” As the impacts of a smart city will affect and benefit the whole community, a plan requires new cross-city governance models and shared strategies.

Essentially, a Smart City Master Plan will connect agencies in order to lay out a comprehensive approach for developing and deploying smart city solutions to improve overall quality of life.

THE VALUE PROPOSITION

Developing and implementing a Smart City Master Plan is likely not driven by potential short-economic returns, as it will require significant additional funding, resources, and, often, in-house capacity building. What makes it worthwhile are the social and environmental returns that will improve the economy and community in the long-term.

A Smart City Master Plan will connect agencies in order to lay out a comprehensive approach for developing and deploying smart city solutions to improve overall quality of life.

Building a smart city engages a diverse and extensive stakeholder group, including municipal agencies, industry insiders, academia, community leaders, and others. A Smart City Master Plan unifies these separate groups, breaking down information silos—which, in turn, allows thorough exploration of the potential social and environmental benefits.

DEVELOPING A PLAN

Based on a review of international initiatives and discussions with community and industry leaders, LSNetwork has identified several key best practices for mid-sized cities developing a Smart City Master Plan.

ENGAGE STRATEGICALLY AND WIDELY.

Smart city solutions can impact all people within a community, and therefore also require involvement from various municipal agencies and community leaders. Information and agency silos need to be overcome to build internal and external partnerships and foster collaboration. Partners should include academia, industry, civil society, and other levels of government.

¹ Author of *Smart Cities: Big Data, Civic Hackers, and the Quest for a New Utopia* (2013) and internationally-recognized expert on the future of cities.

² Smart London Strategy and Delivery Officer at the Greater London Authority.

To build a smart city that improves quality of life for all people, smart city plans should be developed to solve the true community needs. These needs can only be identified through inclusive and extensive citizen engagement. As part of this preliminary engagement, the core Smart City Master Plan project team and champion should be determined.

ESTABLISH THE CONTEXT.

The strategic roadmap developed through a Smart City Master Plan is community-specific because each community faces different challenges, is in a different state of readiness, and has access to different solutions. By establishing the local context, the Plan and the technology applications it includes can be better fitted to the city. Knowing the current context will also define a baseline for results to be measured against. To establish the context, municipalities should:

- > identify their priorities and areas which are in need of improvement;
- > determine the community short- to long-term goals; and
- > assess data currently available relevant to these goals and identify what additional data needs to be collected to complete baseline knowledge.

DEVELOP AN AMBITIOUS, MEASURABLE, AND ACHIEVABLE PLAN.

The success of a Smart City Master Plan is largely dependent on designing a robust strategy grounded on a clear vision for the future of the city. The vision and mission should build on existing priorities and assets to align with local needs and goals, while also defining aspirational targets to energize and mobilize stakeholders. A comprehensive plan will:

- > describe the preliminary engagement;
- > provide an approach for ongoing engagement;
- > verify the context;
- > outline smart city strategies to overcome challenges;
- > design a roadmap to implementation with targets and timelines; and
- > identify mechanisms to measure success.

Fostering a new innovation ecosystem by partnering with academia as well as major tech companies and startups is key for incubating smart city ideas and delineating appropriate roadmaps. These partnerships may also leverage important sources of funding.

SELECT TECHNOLOGY TO EMPOWER THE COMMUNITY.

To encourage effectiveness and longevity of smart city solutions, Smart City Master Plans can require solutions that are designed:

- > to enhance digital inclusion and improve access for all citizens;
- > for interoperability; and
- > to evolve as new technologies become available.

EMBED SMART CITY THINKING.

Over time, smart city solutions will become the new normal and will be embedded within all city strategies as they are developed. A Smart City Master Plan ignites a cultural change:

- > municipalities will find new ways of working and collaborating;
- > citizens will be empowered through data and connected technology; and
- > skills and knowledge training will shift to support this technology revolution.

SMART CITY SOLUTIONS

Many existing national and international smart city solutions have been summarized under seven categories below.

	<p>STREETLIGHTS The existing and pervasive infrastructure of streetlights makes them an obvious choice for hosting a citywide communication network that can be leveraged as the backbone for applying smart city solutions. As streetlighting networks are usually evenly deployed throughout a municipality, they provide one of the most equitable means of deploying technology. This network can also be used to monitor and control streetlighting to reduce maintenance and electricity costs.</p>
	<p>TRAFFIC & PARKING Traffic and parking optimization leads to reduced time-on-road for cars and correspondingly reduces greenhouse gas (GHG) emissions. Sensors of real-time traffic can be used to control smart traffic signals to increase travel speeds and reduce intersection delays. Data from parking sensors can direct drivers to empty spaces via mobile apps while informing law enforcement of parking infractions.</p>
	<p>ENVIRONMENTAL MONITORING For environmental monitoring, current technology offers a wide range of options. Sensors are able to monitor and report weather conditions, air quality (i.e. various pollutants), ground conditions, and noise. This data can benefit citizens, policy makers and researchers by providing information on the health and environmental risks of ambient conditions.</p>
	<p>SAFETY & SECURITY There are also extensive smart city applications available for safety and security. One such application commonly mentioned by suppliers is gunshot detection. This type of sensor can be used to trigger image capture in the area when a shot is heard and alert emergency responders who can be directed by flashing streetlights. A similar system can be deployed for traffic accident detection.</p>
	<p>CONNECTED CORE CITY SERVICES Waste management, road salt applications, flood management, and utility efficiencies have been shown to improve through networked sensor technology. Some potential benefits, for example, are: optimizing water and electricity use with smart meters; minimizing salt use by applying based on ground temperatures; and emptying waste bins when full, with optimized collection routes.</p>
	<p>REVENUE GENERATION As one way to offset the costs of deploying new technology, cities can look for additional revenue generation opportunities. Some already being used include fees for Wi-Fi hotspots and electric vehicle charging stations.</p>
	<p>COMMUNITY EMPOWERMENT Through open data and inclusion efforts, smart city applications can more deeply connect citizens to city leadership and to each other, and build the capacity of citizens to make informed decisions. Efforts can include using technology to make services and information more accessible to vulnerable populations. ICT solutions also provide the opportunity for real-time feedback and iterative interaction between government and community, giving residents more influence in policy and decision-making.</p>

WHO'S DONE IT?

The extent of possibilities intelligent communities offer can be overwhelming for many communities; however, over the past 10 years, select global cities have tackled this challenge with the implementation of smart city master planning processes. Smart planning allows city governments and urban planners to become leaders in the technology revolution.

GLOBAL SMART CITY LEADERS

BARCELONA, SPAIN

Barcelona was a pioneer of smart city planning and IoT solutions. The city's first Smart City Strategy was a top-down approach involving major urban infrastructure projects in streetlighting, transportation, energy, and water. By 2014, Barcelona was saving \$58 million a year from its smart water initiative, and it had increased parking revenues from multistory car parks by \$50 million and had created 47,000 jobs. (Guglielmo, 2014)



But not all projects were successful. Occupancy sensors put in street parking were found to be triggered by underground subways and ultimately unused by drivers. By continuously reviewing and revising its plan, Barcelona is now approaching its strategy with a citizen-centric focus—looking at what technology can do for the people. (Tieman, 2017)

DUBLIN, IRELAND

The City of Dublin published its first Digital Masterplan in 2013 with a vision to position Dublin as a global leader in technology innovation to drive “economic compet[et]iveness and a cohesive and sustainable society”. Its initiatives focused on empowering citizens using technology, such as providing broadband fibre to every home. The objective is to ensure prospective Irish employees are job-competitive, which, as the Masterplan states, requires access to 10Mbps connectivity at home. (Digital Dublin, 2013)

In 2016, Smart Dublin was launched as an initiative of the four local authorities, including City of Dublin. Continuing to focus on community engagement to drive the smart city process, the initiative works to consolidate the digital efforts of each authority and engage solution providers and researchers with the community to improve city life. (“Smart Dublin”, 2018)

VANCOUVER, CANADA

Vancouver's Digital Strategy, also developed in 2013, reviews the city's current digital maturity, identifies goals, and outlines a three-year action plan roadmap. It positions data as the architect of a smart city that connects citizens, businesses, and governments. Vancouver completed extensive consultation with stakeholders to drive a citizen-centric plan that promotes widespread adoption. (City of Vancouver, 2013)

Following the action plan, Vancouver is now in a two-year technology transformation phase with the ultimate goal of becoming a "smart, intelligent, connected, green city" (Adcock, 2017). Such a transformation is an aspiration for all our future cities in this digital age.

Vancouver, British Columbia

LEADERS IN MID-SIZED SMART CITIES

MILTON-KEYNES, UNITED KINGDOM (POPULATION: 255,700)

Milton-Keynes initiated the *MK:Smart* program in response to being one of the fastest-growing cities and economies in the UK. The objective of the smart city strategy is to support sustainable growth without exceeding infrastructure capacity, while meeting key carbon reduction targets and making it one of the top economic cities in the UK. The program's initiatives are focused on energy, water, and mobility. MK:Smart developed a coalition of 21 partners including council, universities, and industry. ("MK:Smart", 2018)

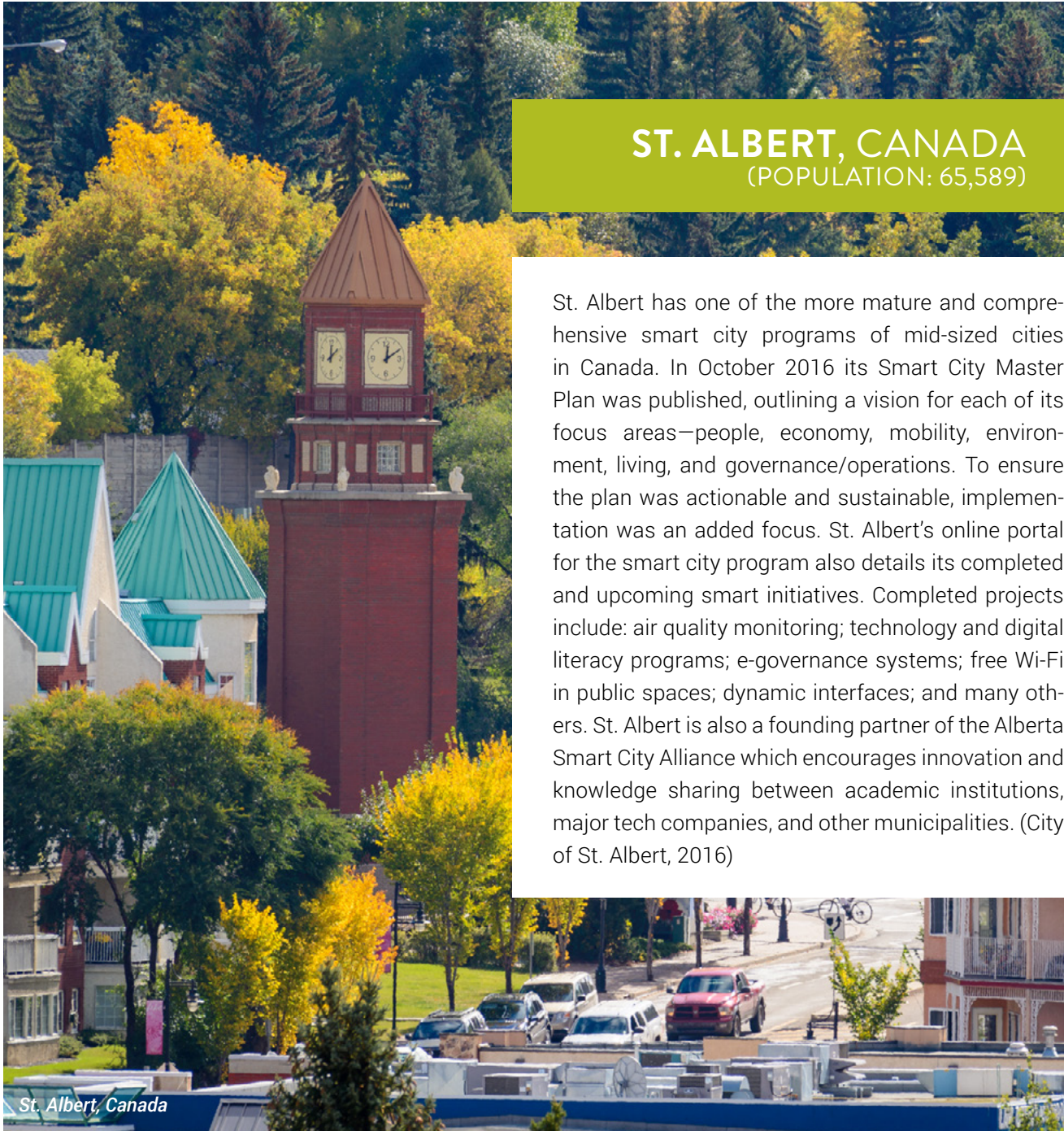
The key technical infrastructure component is the MK Data Hub. Developed by Open University, the hub brings together data from government, business, and private contributors to enable their use in analytics and software applications. Currently, 261 open data-sets are available. ("MK:Data Hub", 2018)



KITCHENER, CANADA (POPULATION: 204,668)

In January 2017, City of Kitchener council approved the city's first digital strategy, Digital Kitchener, with actions for developing a smart city. The strategy focuses on building a city that is connected, innovative, inclusive, and responsive, as well as driven by collaboration and economic ambitions. The plan presents specific smart initiatives existing in the city—for example, smart streetlighting with machine learning capabilities, North America's largest tech-incubator, hackathon programs, and innovation hubs. Along with these initiatives, the plan also provides high-level actions for achieving its digital objectives. (City of Kitchener, 2017)

Kitchener, Canada



ST. ALBERT, CANADA (POPULATION: 65,589)

St. Albert has one of the more mature and comprehensive smart city programs of mid-sized cities in Canada. In October 2016 its Smart City Master Plan was published, outlining a vision for each of its focus areas—people, economy, mobility, environment, living, and governance/operations. To ensure the plan was actionable and sustainable, implementation was an added focus. St. Albert's online portal for the smart city program also details its completed and upcoming smart initiatives. Completed projects include: air quality monitoring; technology and digital literacy programs; e-governance systems; free Wi-Fi in public spaces; dynamic interfaces; and many others. St. Albert is also a founding partner of the Alberta Smart City Alliance which encourages innovation and knowledge sharing between academic institutions, major tech companies, and other municipalities. (City of St. Albert, 2016)

St. Albert, Canada

Source: *Jeff Wallace flickr account*

CONCLUSION

Data and technology is transforming and redefining the cities we live in. This digital revolution, once led by industries, is now being harnessed by governments to empower citizens. Smart City Master Plans are enabling municipalities to support community goals by leveraging their networks as platforms for smart city strategies. The scale of mid-sized cities uniquely positions them to lead this movement and foster innovation by knowledge sharing between communities.

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IMAGE SOURCES

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DIGITAL STRATEGIES & SMART TECHNOLOGIES IN ONTARIO'S MID-SIZED CITIES

AN EMERGING ROLE FOR
ADMINISTRATORS

Angela Orasch, McMaster University



INTRODUCTION

In the past few years, digital and technological innovation strategies have become key pillars in city planning across Ontario and a “smart city” approach is now viewed as a necessary and expected inclusion in municipal strategic planning. The push for smart cities is also bolstered by a smart city industry, a market that by some estimates will be worth \$1.5 trillion in the coming years (Singh, 2014). These trends have not gone unnoticed at the federal level, with the Canadian government recently launching its own “Smart City Challenge”, offering a prize of \$50 million to a Canadian city that most successfully applies technological solutions to local governance issues. A majority of Canadian municipalities have thrown their hats into the ring (Infrastructure Canada, n.d.).

There are a few reasons that “smart cities” have become a staple of city governance strategies. Urbanization is continuing to grow in scale and scope, with more people living in cities than ever before. Localities are facing rising housing costs, environmental degradation, and infrastructure failings and are looking to the latest technological innovations for potential solutions. “Smart city” technology aims to mitigate the problems faced by cities through innovative and cost-friendly hardware and software solutions, as well as through the collection and analysis of data (Dameri, 2011).

A burgeoning body of literature calls attention to both the positive and negative aspects of smart city initiatives (Cocchia, 2014). On the positive end, some have argued that implementing smart technologies improves the quality of life for all residents (Bakici, Almirall, and Wareham, 2013) by highlighting their role in environmental protection and sustainable

development goals (Paskaleva, et al., 2017). On the other hand, critics have pointed to the corporate connection in technology procurement and its threat to the public good (Hollands, 2015) while also raising concerns about privacy and surveillance (Angelidou, 2017) and overall government control (Vanolo, 2014).

Mid-sized cities hold a distinctive place within the smart city agenda. Mid-sized cities often struggle with both the fiscal capacity and existent infrastructure to make smart city models a reality; however, they are encouraged to participate nonetheless. Evergreen recently published a report on some of the key issue-sets faced by Ontario’s mid-sized cities in this regard (February 2018). The report highlighted the unique opportunities available to the mid-sized city based on the inherent flexibility and agility of the smaller municipality. It also made mention of potential unfavourable outcomes, such as inequities and exclusions brought about through an ongoing digital divide in local communities.

It is thus important to bridge research in smart city governance and the specific case of the mid-sized city. The following research builds on Evergreen’s previous evaluative work while continuing forward with a critical lens. The main questions being: Where are smart city strategies housed, and who is in charge of their management? This paper uses summary research from city websites coupled with interviews with various city leaders to answer these questions and assess the current governance model of smart cities in Ontario’s mid-sized cities. For practitioners, this research presents a preliminary administrative model that highlights the importance of public administration in smart city development and suggests best-practices for ensuring public accountability in smart cities in Ontario.”

ADMINISTRATION OF SMART CITIES:

MAYOR-COUNCIL VS COUNCIL-MANAGER

The structure of city governance differs across North America and this has an effect on smart city strategies. The United States has a tradition of what is termed a “strong” mayoral system.¹ Even though in the past 50 years mayors have given up most of their “strong” powers to legislative bodies, the tradition of mayoral significance has produced a space that allows for initiatives with innovative funding opportunities and unique partnerships. In light of this, it is no surprise that most American smart city strategies, in both large and mid-sized cities, are housed within (or connected to) the Mayor’s office (see Boston, New York, Chicago, and Syracuse). Boston, for example, has the Mayor’s Office for Civic Innovation, which connects rigorous social science research to the integration of technological solutions. Chicago has the Department of Innovation and Technology, a robust civic organization, working within the city and with other partners on broad-based technology solutions.

Canada, on the other hand, is said to have a “weak” mayoral system, or council-manager model, where the mayor has “limited” powers (Scanton 2015, 225). In this model, smart city strategies are most often housed in one of two places: economic development departments or information technology departments. Their placement in these departments can hinder a more integrative approach to smart city development, but it can also ensure that outside influence is cut off. It is important for students of administration and technological governance to see how institutional dynamics such as these may play a role in successful outcomes for smart city strategies.

DIGITAL/DATA/INFORMATION OFFICERS

Many cities engaging with smart city strategies have a Chief Digital Officer (CDO), Chief Innovation Officer (CIO), or Chief Data Officer (CDTO) in charge of the smart city portfolio. However, these positions are not inherently connected to smart city initiatives, but are instead tied to digital communications and online services. The core portfolio of the CDO varies, but usually includes the following:

- > E-government services
- > Website creation and maintenance
- > Open data initiatives
- > 311, or citizen communications applications
- > Internal communications platforms/software
- > Software/hardware procurement

Importantly, the role of the CDO is not merely that of an Information Technology (IT) specialist. Hillary Hartley, current Chief Digital Officer of Ontario, explains that the CDO’s job is “more about empathy, than about technology” and that the CDO bridges the divide between technology and the needs of citizens. She explains the role of the CDO in a four-pronged approach: “1) service delivery, 2) talent and training, 3) platforms, and 4) procurement—all driven by a citizen-focused approach to actionable deliverables” (Hartley, H., phone interview, January 31, 2018).

¹ Many American cities have a municipal governance model that includes what has come to be known as a “strong” mayoral system, or mayor-council model. In this system, mayors have a larger role in the formation of the budget and have veto power in council, and they tend to direct policy initiatives more broadly (DeSantis and Renner, 2002). In the literature, this model is suggested to be associated with more economic development success (Wolman and Spitzley, 1996); however, it is also associated with more internal corruption and has therefore waned in popularity.

CHIEF DIGITAL OFFICERS AND SMART CITIES IN ONTARIO'S MID-SIZED CITIES

Although the CDO is not a requirement for smart cities, they tend to be at the forefront of many municipal smart city strategies, specifically in larger cities (see Vancouver, Toronto, New York, and Boston). However, in mid-sized cities, there is less of an appetite for this position. In Ontario, Hamilton is the only mid-sized city to have a Chief Digital Officer in charge of smart city planning. In London, Ontario, smart city initiatives are housed by the Planning Department, and do not appear to have a CDO or technology lead. Oshawa, Brantford, Ottawa, and Waterloo Region are directed in smart city planning through their respective Economic Development departments. Kingston does not have any specific department committed to smart cities, per se, yet they have recently partnered with Bell to offer the city an Internet of Things² and data analysis package, ostensibly managed and monitored by the corporation and not the city (Kingston, Ont., signs 'Smart City' agreement with Bell, 2018). A detailed list of the portfolio management of smart cities is seen in Figure 1.1.

Figure 1.1

MID-SIZED CITY	OVERSIGHT OF SMART CITY PORTFOLIO	CHIEF DIGITAL OFFICER AS SMART CITY DIRECTOR
Barrie	None	N/A
Brantford	Economic Development	No
Guelph	University/External	No
Hamilton	City Manager's Office	Yes
Kingston	Bell Corporation/Economic Development	No
London	Planning Department	No
Niagara Region	Chief Administrative Office	No
Oshawa	Economic Development	No
Ottawa	Economic Development	No
Sudbury	None	N/A
Thunder Bay	None	N/A
Waterloo Region	Economic Development	No
Windsor	None	N/A

² A definition offered by the oxford dictionary for the Internet of Things: The interconnection via the internet of computing devices embedded in everyday objects, enabling them to send and receive data ("Internet of Things", n.d.) This includes things like: connected stoves, street light sensors, connected garbage bins, and connected street lights.

WHY DO ADMINISTRATIVE MODELS MATTER IN SMART CITIES?

Smart cities need infrastructure, and not simply the “hard” infrastructure of roads and bridges, but also the “soft” infrastructures that make up communications networks like software applications, Internet of Things (IoT) technologies, and application programming interfaces (APIs). Since they cannot be produced in-house, cities procure these items externally.

Smart city technologies usually fall within one or more groups in a three-set typology: 1) multi-directional communications applications; 2) data man-

agement and analytics; and 3) Internet of Things technologies. These initiatives can be linked together in one single portfolio, as is the case in Hamilton, where the Chief Digital Officer is in charge of both open data portals and smart city strategies. However, these groupings are not always housed within the same portfolio, but are sometimes divided between discrete departments. For example, open data portals in London, Kitchener and Waterloo are separate affairs from the strategic policymaking regarding smart cities, which is the purview of the planning or economic development department.³ There are mixes of these models as well. For instance, Waterloo makes mention of open data in its smart city strategy, yet it appears that the management of open data



³ City of London. Open Data. Retrieved from <http://www.london.ca/city-hall/open-data/Pages/default.aspx>; City of Kitchener. Open Data. Retrieved from <http://www.kitchener.ca/en/city-services/open-data.aspx>; City of Waterloo. Open Data. Retrieved from <http://www.waterloo.ca/en/government/opendata.asp>

A model is needed for ensuring that city governments will always hold the reins in public-focused technological development, creating an institutional space that is safeguarded from private influence and given the proper space to tackle future issues.

is housed in a separate department (Waterloo. Smart City Initiatives. Retrieved from <http://www.waterloo.ca/en/government/smart-city-initiatives.asp>). However, there could be interdepartmental coordination in this instance.

In all administrative forms, cities who use technologies must decide on their key priorities, develop a strategy, and procure the needed infrastructure. With regards to the latter, there are many corporate offerings. Microsoft CityNext, AT&T, KPMG, Hitachi, Cisco, IBM, Schneider Electric, Siemens, Huawei, Ericsson, Toshiba, and Oracle all have packages available for municipalities. There are other “start up” options as well, offering tech solutions that work within broader packaged solutions; examples include Soofa (offering solar-powered benches) and Smartvue (offering IoT video surveillance).⁴

The task of contracting out these services is given to those in charge of a city’s smart city portfolio, and public administrators make the important decision of which platform or targeted solutions to use. However, city departments each have their own mandate and strategic focus and could potentially find themselves driven by their specific goal structure.

Similarly, corporate offerings of smart city hardware and software require consistent checks and monitoring.⁵ These agreements are new and ongoing, making the results hard to quantify or qualify, yet one can infer how the utilization of a specific “smart city suite” could potentially influence future initiatives or technological developments—a company that has monopoly will likely seek to extend this position into the future, focusing instead on how to maintain clients as opposed to how to best service citizens. Without public service experts, elected officials, often limited in their technological literacy and engineering knowledge, could find themselves reliant on the knowledge offered by technology providers—a scenario that fundamentally takes control away from the public.

Avoiding external influence and providing ongoing checks and balances becomes an issue for the public sector, specifically in mid-sized cities where post-industrialization tempts civic leaders with quick-fix economic solutions. A model is needed for ensuring that city governments will always hold the reins in public-focused technological development, creating an institutional space that is safeguarded from private influence and given the proper space to tackle future issues.

⁴ Their products and offerings can be found here: <http://www.soofa.co/getsoofa/>; <http://smartvue.live/>

⁵ For more on the corporate connection see, (Söderström, Paasche and Kalauser, 2014).

THE CASE FOR A CHIEF DIGITAL OFFICER

Although most mid-sized cities in Ontario appear to house smart city initiatives through economic development departments, Hamilton stands out. Hamilton's CDO, Andrea McKinney, has recently been tasked with managing the city's entire digital strategy, which includes technological governance and smart city planning. She explains that her job begins with a firm citizen focus based on delivering quality service rather than being driven by corporate investment opportunities or strict economic development goals. She also notes how her position is one of an "advocate" and "facilitator"—a "translator" between departments focused on developing a "common language" for Hamilton's technological future (McKinney, A., phone interview, February 12, 2018). These directives (paired with her position within the City Manager's office) allow for a broad-based consulting framework that involves both the public and private sector, but focused on the citizen. This model seems to address some of the concerns surrounding smart city development in that it detaches the development and procurement of smart technology from a strict economic framework.

Mid-sized cities in particular have attached themselves to this economic development approach, looking to bolster their image by fostering certain industries; attempting to attract and retain talent within their post-industrial economies.

A single change to this role might be considered—that is, a divided portfolio between the digital/data component versus the smart city/innovation strategies. This is the case in a highly regarded smart city like Boston. Kris Carter, Co-Chair of the Mayor's Office of New Urban Mechanics in Boston, explains that his department is largely concerned with developing new citizen-focused technology solutions with local academic partners, while the CDO is responsible solely for the communications and digital service delivery (Carter, K., phone interview, February 9, 2018). Dividing these portfolios nurtures a civic-focused smart city approach by allowing a singular target. The New Urban Mechanics office is directly charged with innovating Boston's smart future using rigorous academic and community-fronted research applied through good governance practices.

Both of these models share one thing: they are not housed in economic development departments. The danger in connecting smart city initiatives strictly with economic development is that smart city initiatives could become primarily tasked with bringing investment into the area to the exclusion or marginalization of other concerns. Instead of focusing inwards towards residents, they could look outwards to their place in a broader inter-city competitive economy. Mid-sized cities in particular have attached themselves to this economic development approach (Erickcek and McKinney, 2006), looking to bolster their image by fostering certain industries (Lewis and Donald, 2010); attempting to attract and retain talent (Gertler et al., 2014) within their post-industrial economies.

Economic growth is an important deliverable for city governments to consider; however, research into competitive city strategies explains how inter-urban competition fails to address residents' concerns regarding equity and inclusion (Peck, 2014; Cleave et al., 2017; Lever and Turok 1999). Research suggests that inter-city competition and place making does little to mitigate poverty, civic exclusion, unaffordable housing, and environmental degradation (Donald and Morrow, 2003)—all suggested targets for smart city initiatives. If smart city strategies in mid-sized cities are based within this framework, there is a chance they will not be beneficial to all residents.

Canada's smart city challenge does little to quell this impulse, given that its entire framework is based on inter-city competition. Yet, it remains an important marker of a successful administrative model that mid-sized cities avoid the pitfalls of a strictly competitive economic approach in their smart city programs. A CDO housed within the City Manager's office may be a good place to start, specifically in mid-sized cities that do not have the population size or budget for a Boston-style model. A key takeaway is that mid-sized cities should plan for a smart city strategy that will continue to change shape in years to come; ensuring that this shifting remains public-centered, open, equitable, and free of corporate influence requires a solid bureaucratic foundation.

A key takeaway is that mid-sized cities should plan for a smart city strategy that will continue to change shape in years to come; ensuring that this shifting remains public-centered, open, equitable, and free of corporate influence requires a solid bureaucratic foundation.

CONCLUSION

A politico-economic perspective would point out that technology is not a fix-all or one-stop solution for the blight of contemporary cities, and that without addressing economic structural inequalities, labour market shifts, and social marginalization, technology will at best offer a band-aid or piecemeal solution for current urban issues. When delving into the milieu of smart city initiatives it is important to take heed of these structural issues and to tether each of them to a critical analysis based within a macro politico-economic assessment. At present, the best way of approaching these concerns is through a smart city strategy divested from any incentive structures outside of citizen equity, inclusion, and well-being, as well as service delivery. An administrative model that takes on a specific leadership role and houses that role in a central department appears to be the best practice for moving forward in the digital future of Ontario's mid-sized cities.



Barrie, Ontario

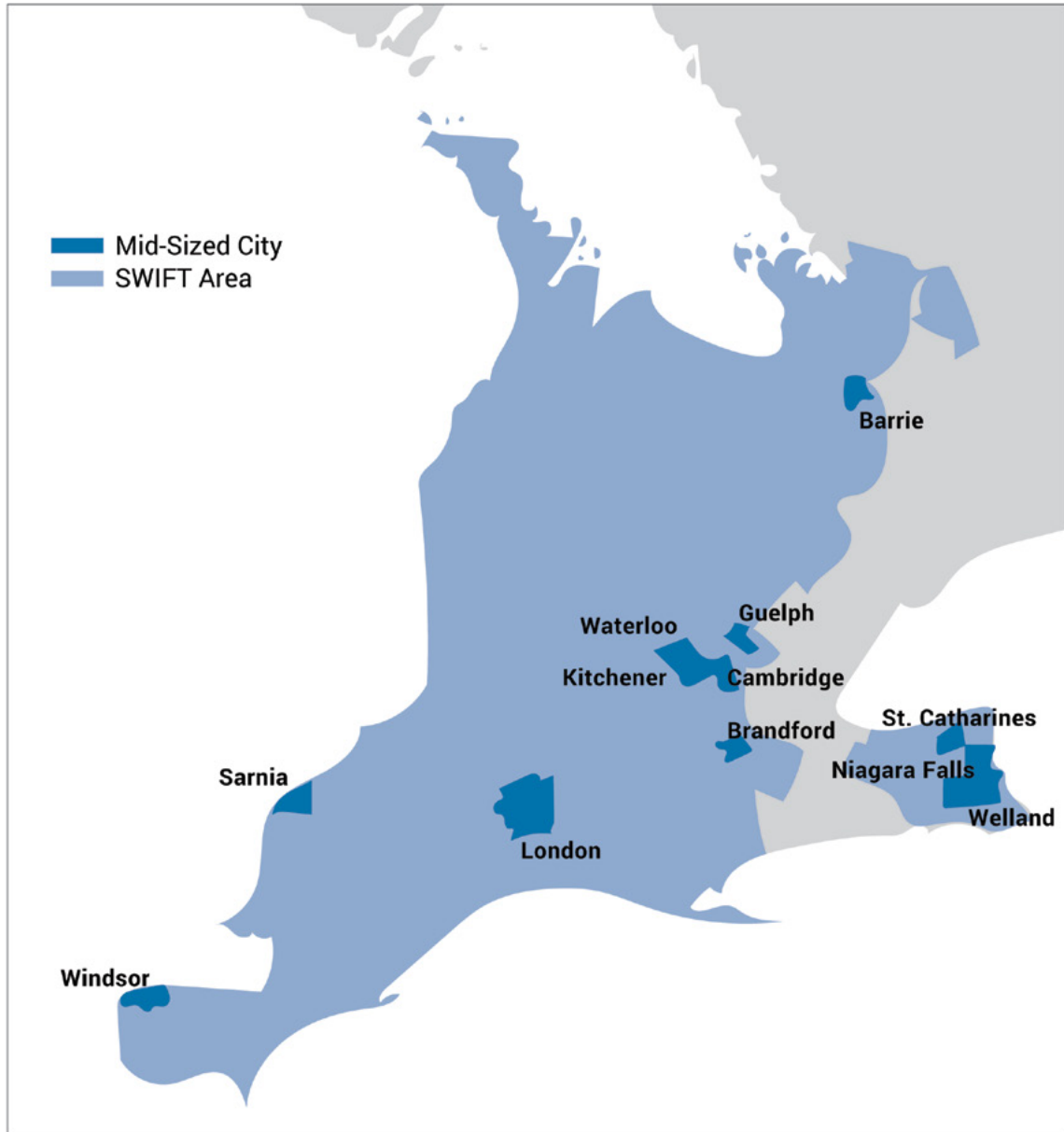
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THE ROLE OF SOUTHWESTERN ONTARIO MID-SIZED CITIES IN A REGIONAL AND RURAL BROADBAND PARTNERSHIP

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INTRODUCTION

Digital technologies, including the internet, have created a new age of regional economic development in Canada. Ultra-high-speed connections link mid-sized cities to one another—and more importantly, as we argue in this paper, to surrounding areas. The 2018 report *How to be Smart(er) in Mid-Size Cities in Ontario* prepared by Evergreen and Code for Canada sets the broader context for this discussion, but we will focus our findings around the first dimension of “smart cities”: networking and telecommunications infrastructure, and more specifically broadband.¹

¹ <https://www.evergreen.ca/downloads/pdfs/2018/tech-and-data-msc.pdf>

The term MSCs is used here descriptively to include urban areas within municipal boundaries that have a population of between 50,000 and 500,000 residents. We recognize that cities such as Sarnia and Guelph do not meet the Census Metropolitan Areas (CMA) criteria (>225,000 population). “Rural” is a descriptive term used in the paper to refer to areas outside urban areas, including smaller towns, villages, and hamlets. In Southwestern Ontario, First Nations communities also border MSCs. Rural areas are less densely populated and include zones of environmental and agricultural significance.

The objective of this paper is to examine the role of MSCs in regional and rural broadband initiatives. Drawing on data collected by the broadband investment program known as the SouthWestern Integrated Fibre Technology Inc. (SWIFT) network, this paper considers the importance of MSCs within the overall architecture of SWIFT, and the opportunities and challenges for MSCs in expanded networking and telecommunications infrastructure across Southwestern Ontario, Niagara, and Caledon (herein shortened to SW Ontario).

This paper first provides an overview of literature on understanding the role of MSCs in regional and rural broadband. Subsequently, we present the case of SWIFT to examine MSCs as they relate to broadband infrastructure, economic outcomes, and social benefits. This case study highlights apparent opportunities and challenges for the role of MSCs in regional and rural broadband connectivity. Finally, the paper concludes by identifying key research-related recommendations.

REGIONAL INFORMATICS FOR INNOVATION

We employ literature from two fields to examine the role of MSCs in creating inclusive, socioeconomically beneficial digital infrastructure: (i) community infor-

Although gaps exist between broadband haves and have-nots, it is not the case that one possesses information and/or the ability to communicate, and one does not. Instead, there is significant variability in access to digital assets.

matics, and (ii) innovation studies. Combined, they are what we refer to here as “regional informatics for innovation,” and they aim to inform an ongoing analysis of MSCs as they relate to regional and rural broadband networks.

COMMUNITY INFORMATICS

The spread of faster internet connections (typically referred to as “broadband”) has completely changed the way many people live, work, and network. This phenomenon can be described as the “triple revolution,” referring to the proliferation of the internet, virtual social networks, and connectivity afforded by ultra-high-speed technologies (Rainie and Wellman, 2012). Broadband has fostered a vast range of digital technologies that creates not only connectivity, but hyper-connectivity (Quan-Hasse & Wellman, 2006). Fast-moving information, knowledge, and action makes synchronized communication and networked actions the “new normal” way of doing things. Not all individuals and organizations, however, get fully connected at the same time or in the same ways. Considerable attention has therefore been placed on what students of the socioeconomic impact of information and communication technology (ICT) refer to as the “digital divide,” or the gap between those who have access and ability to use digital technologies to pursue their socio-economic interests, and those who do

We can say that users experiencing digital gaps have associated risks that can limit the achievement of their practical and strategic needs for housing, healthcare, employment, education, and legal rights or justice. Not all digitally excluded individuals suffer due to location or distance from connectivity.

not (Castells, 1998). Some critical theorists such as Warshauer (2003) discourage the use of the term digital divide to represent what is, in fact, digital inequality. Although gaps exist between broadband haves and have-nots, it is not the case that one possesses information and/or the ability to communicate, and one does not. Instead, there is significant variability in access to digital assets. For instance, urban areas have different types of connections, such as cable (e.g., fibre, DSL, copper) than peripheral area networks (e.g., fixed wireless, satellite). Therefore, digital equality is very much based on what an individual, community, or region possesses, as well as on the modes of access and use of the assets.

To be an internet user on what could be considered the “have less” side of digital connectivity is to experience the limitations of living with gaps of information, knowledge, and communication, and, ultimately, without fully networked modes of economic, political, and social opportunity. We can say that users experiencing digital gaps have associated risks that can limit the achievement of their practical and strategic needs for housing, healthcare, employment, educa-

tion, and legal rights or justice. Not all digitally excluded individuals suffer due to location or distance from connectivity. We do not consider, in the scope of this paper, inequality among users who experience digital exclusion due to socially constructed ability or identity.² The digital inequality addressed in this paper is locational, with emphasis on internet users who are in the intermediate and “last mile” of broadband connectivity (or the “end of the line” connection from a broadband point of premise to the individual premise [Paisley & Richardson, 1998]). There are still many communities, as Michael Gurstein (2003) reminds us, which experience

systematic exclusions of locationally identifiable groups who, for whatever reason, are unable to make effective use of information and communication infrastructures- that is to go beyond simple access to ensure that the ICTs are useable, useful and being used- in support of personal and community objectives. (Gurstein, 2012:37)

The reasons behind locational digital exclusion are numerous and context-specific, but the predominant reason is that building and maintaining high-capacity telecommunications infrastructure is expensive, and peripheral internet quality of service is often compromised by distance from the core (fibre) network. The prevailing market logic of private sector and even public-private sector partnerships in telecommunications works in more densely-populated communi-

² For a sense of the scope of digital inclusion policy discussions and Ontario’s recent summit, see: <https://www.digitalinclusion.ca/>

ties, but dispersed, less dense populations have been equated to relatively low user demand which is met with less competition and few options for service. Generally, rural/remote residential dwellings experience inferior speeds, or, at best, costly one-time connection fees with relatively higher monthly-recurring costs. Inadequate quality of service, particularly on older technologies such as copper telephone lines, is widely reported by groups such as the Rural Ontario Institute (ROI, 2018). In terms of socioeconomic opportunities, underserved areas generally compare poorly to locations with more competitive telecommunications options (Pant & Hambly, 2016). Generally speaking, there is longstanding policy-level awareness of the persistence of connectivity gaps in many rural and remote communities across Canada.³

After decades of statements issued from all levels of government seeking to close digital divides, in December of 2016 the Canadian Radio and Telecommunications Commission (CRTC) determined that 100% of Canadians will have access to reliable, world-class mobile and fixed unlimited data internet services with an unlimited data option (CRTC, 2016). Telecom Regulatory Policy CRTC 2016-496 states in Paragraph 21 of the ruling that “the latest generally deployed mobile wireless technology should be available not only in Canadian homes and businesses, but on as many major transportation roads as possible in Canada.” Furthermore, Paragraph 110 of the ruling states that quality of service is expected to “reflect the objective that broadband internet access services in rural and remote areas be of similar high-quality as those in urban areas.”



³ As recently as this month (April 2018), in the 1st Session of the 42nd Parliament, the Report of the Standing Committee on Industry, Science and Technology was presented to the House of Commons by Chair Dan Ruimy. The report reinforced the need to close the digital gap in rural Canada.

As the data discussed below indicates, many users in non-urban SW Ontario do not experience such high-quality internet access services. CRTC's 2017 Communications Monitoring Report states that by the end of 2016, 84% of Canadians had access to download speeds of at least 50 megabits per second (Mbps) and upload speeds of at least 10 Mbps on fixed broadband internet services. CRTC has committed to 91% of Canadians reaching this target by 2021. As this paper will explain, service at the 50/10 Mbps threshold is far from ubiquitous within and across communities. As the data indicated below suggests, download and upload speeds may be lower and monthly costs can be significantly higher than averages reported by CRTC (2016).⁴ Assessing internet service quality and understanding locational digital exclusion requires longitudinal analysis and system-level action.

Community informatics has an action-oriented approach to examining broadband, emphasizing the socio-technical linkages undertaken by user groups and communities to overcome digital inequalities. From community hackathons to business section hotspots, or from the home-grown establishment of wireless mesh networks to municipally-owned internet service providers, there is no shortage of examples of interventions. Many celebrated initiatives to overcome digital exclusion are, however, operating at the community network level (Clement et al, 2012). Scaling up community informatics to the system level may not be the main focus of the initiatives, and where it has been anticipated, it has not been as easy to achieve or sustain without linking the “soft system”

elements of individual and organizational trust, active relationships, collaboration, and participation to the up-scaled technical or “hard system” elements of infrastructure (Dobrov et al, 1979; Simpson, 2005).

Understanding that community informatics initiatives are often challenged by scaling up to wider system-level change helps draw attention to the need for capacity building within and across communities. As an example, members of the Keewaytin-Okimakanak First Nations council have created an active community of practice by re-framing broadband challenges as “first mile” community-led initiatives and not “last mile” connections (McMahon et al, 2010; Beaton and Campbell, 2014; Beaton, Siebel and Thomas, 2017).

With community-led, community-to-community co-operation efforts there are opportunities for regional innovation to overcome digital divides. This would require taking the community informatics approach to building not just a community network, but an aggregated regional network with capacity for connective actions to ensure broadband access for all.

Understanding that community informatics initiatives are often challenged by scaling up to wider system-level change helps draw attention to the need for capacity building within and across communities.

⁴ According to data from CRTC (2016), the average minimum price for broadband in rural Canada is about \$52 per month. Monthly prices in rural Ontario range from \$30–\$93, compared to \$53 in urban Ontario.

ENABLING REGIONAL INNOVATION

In their seminal 1977 essay, *In Search of Useful Theory of Innovation*, authors Nelson and Winter explained that purposeful acts of investment are an important element of the dynamic processes of innovation. Innovation anticipates a dynamic, complex, and distinctly non-linear relationship between technology, institutions, and social change (Lundvall et al, 2002). Innovation is envisioned as social learning processes that implicate social networks and techno-institutional interactions. Within a Regional Innovation System (RIS), organizations, including firms, networks, and knowledge partners such as scientists are the crucial interacting elements of innovation. Although some literature posits that metropolitan areas are the primary sites for regional innovation, more recent research has proven the opposite. As Doloreux & Gomez explain, based on their review of 20 years of regional innovation literature,

One key ambiguity is that RIS research has been problematized and theorized around stylized facts and the general belief that RIS can develop more easily in (metropolitan) regions that have built their competitive advantage from particular kinds of localized learning, which are functionally integrated in Marshallian agglomeration economies. This belief has led RIS research to fail to take into account newer approaches that acknowledge the diversity of pathways that can be adopted by non-metropolitan regions, and in particular approaches that seek to make sense of growth paths in peripheral and rural regions (Doloreux & Gomez, 2016:381).

From the perspective of RIS, focused investments leverage innovation arising from the complex linkage between technology, institutions, and social change. Whereas a neoclassical economics perspective posits that policy intervention is only legitimate and needed in the context of market failure. Innovation theory goes further to suggest that

public intervention is legitimate and needed not only if the complex interactions that take place among the different organizations and institutions involved in innovation do not function effectively, but basically to promote a dynamic, innovation-based competitiveness trajectory or what is often referred to as a 'high road strategy' of competition (Coenen et al, 2017:603).

Public dollars spent on building fixed and mobile telecommunications infrastructure can be precisely described as the consequence of failed market forces (Rajabuin & Middleton, 2013). Indeed, since the 1990s, hundreds of millions of dollars from federal, provincial, and local governments have been spent to subsidize broadband infrastructure in SW Ontario. Broadband networks, and public investment in them, therefore become a relevant context in which to explore regional innovation. This is not regional development from the perspective of past agglomeration theories on regional clusters and the role of industrial districts; rather, it's a more evolutionary perspective. The latter involves facilitating change in the community's conditions through diversified economies, social learning, networked and communicative action involving stakeholder dialogue, and wide community engagement. Such evidence-based, process-intensive models of "transactive planning" are a distinct departure from the decades-old rational comprehensive planning models (Douglas, 2010). More interactive, iterative models of regional development interventions are needed to be able to respond to dynamic community conditions and process-based systems of regional innovation.

By linking concepts from regional innovation systems thinking and community informatics, there is an opportunity to scale up community-led action alongside public investment to leverage regional innovation that benefits the entire system.

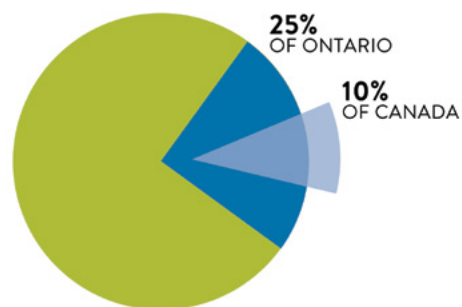
SOUTHWESTERN INTEGRATED FIBRE TECHNOLOGY INC. (SWIFT)

Therefore, we believe that by linking concepts from regional innovation systems thinking and community informatics, there is an opportunity to scale up community-led action alongside public investment to leverage regional innovation that benefits the entire system. In practice, purposeful acts of investment and public intervention can disrupt the status quo and even stimulate a more competitive trajectory for broadband. Broadband connectivity is essential and now a defensible right that holds not just private net benefit, but wider social benefit. We need to conduct empirical analysis to identify such benefits.

Therefore, to test these arguments, we present the case of the SouthWestern Integrated Fibre Technology Inc. (SWIFT)—a collective broadband initiative that is funding the construction of an affordable, open-access, ultra-high-speed fibre-optic regional broadband network for everyone in Southwestern Ontario, Caledon, and the Niagara Region. There are only a few recent empirical studies conducted on broadband for regional innovation in Ontario (Pant & Hambly, 2016; Ivus & Boland, 2015; Rajabuin & Middleon, 2013). None of the literature specifically focuses on the role of MSCs. This case study therefore concentrates on the role of MSCs as members of SWIFT as a collective broadband initiative designed to support dynamic innovation trajectories that close the digital divide across the region.

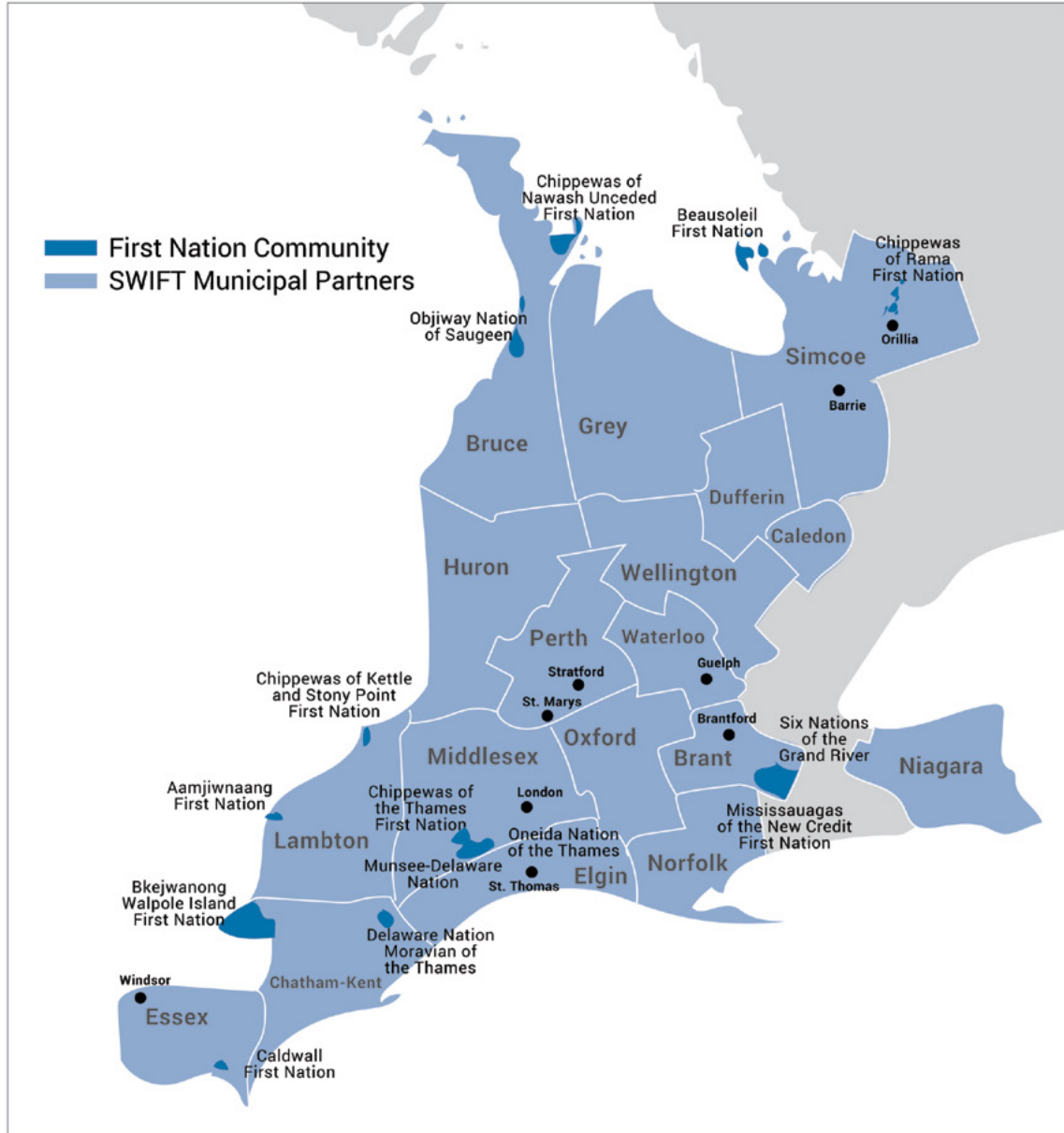
Strictly speaking, SWIFT is more than a region (using the administrative definition of the term). Here we will refer to SWIFT as “regional” in that its public investment and public-private partnership function as a regional innovation system (RIS). As of its first phase in 2016, SWIFT’s area of concentration encompasses **42,000 km²** with over 3.5 million people; **this represents 25% of Ontario’s population or 10% of Canada’s population.** In July 2016, SWIFT was initiated with \$180 million in combined investments from the federal and provincial governments and received an additional \$17 million in investments by member municipalities.

SWIFT’s area of concentration



From its roots in a Feasibility Study released in 2014, SWIFT currently represents the combined connectivity interests of all 15 members of the Western Ontario Wardens’ Caucus (WOWC), Caledon, Niagara Region and several First Nations (see Figure 1).

Figure 1: SWIFT Membership



The overall architecture of SWIFT’s investment in regional broadband infrastructure is structured by two major components which will go to scale in three phases: (1) the NetCo, or core network of fibre-optic technology (also referred to as the “backbone”), (2) the OpCo, or access network agreements (the operational intermediate technology), and (3) the building of the network with a funding mechanism to build ongoing connections which may be fibre to the premise or fixed wireless connections as far as the “last mile” (See Table 1).

Table 1: Three Phases of SWIFT Project

PHASE 1
Provider Consultations (Ongoing)
NetCo (Core) RFP Released (January 3, 2018)
NetCo design finalized
NetCo awarded and build begins (2018)
OpCo (Access) member consultations
PHASE 2
OpCo RFP's released and awarded
Master Service Agreements (MSAs) signed with providers
PHASE 3
Build Network (construction begins early 2018)
Broadband Development Fund (BDF) collects funds and provides ongoing subsidies for future builds

Source: SWIFT (2018)

While seeming to be “hard” infrastructure, there is, in fact, a combination of deep consultation and competitive processes (the SWIFT “orgware”) at each step of the project. The hard and soft aspects of SWIFT’s systems implement a set of SWIFT Board-approved strategic principles that direct public investment to stimulate private-sector Telecommunication Service Providers (TSPs) to build, own, and maintain the regional and rural broadband network (Box 1). The public investment by funders and members of SWIFT involves new or significantly improved open access broadband infrastructure (Guiding Principle #3). The location and amount of fibre-optic infrastructure built in each community are determined by the final overall evidence-based design of the project, as informed by the competitive process.

Box 1: SWIFT Guiding Principles

SWIFT GUIDING PRINCIPLES

SWIFT IS BASED ON SEVEN GUIDING PRINCIPLES:

- 1 Standards-based architecture:** the system will interoperate with all other systems and will be easy to support;
- 2 High availability and scalability:** SWIFT will be available at any moment in time, whenever users need it and it will scale to tens of millions of user connections and applications dynamically without requiring any additional capital outlays or causing system delays;
- 3 Neutrality and open access:** there will be no barriers to entry for users and providers to access the network, levelling the playing field and ensuring that contractual mechanisms and oversight are in place to ensure the network is open and accessible to all;

- 4 Ubiquity and equitability:** the network will be physically accessible to everyone and everyone will face similar costs to provide applications and services over the system or use applications and services on the system, regardless of geographic point of ingress/egress;
- 5 Competition and affordability:** SWIFT will promote competition in services and applications by providing open access, high-availability, and a differentiated system that is affordable to users regardless of population density;
- 6 Broad public-sector user participation:** SWIFT has received broad public-sector support from county level and municipal governments, post-secondary educational institutions, health care institutions, community networks, and other 'MUSH' sector organizations. The support of all Ontario Public Service (OPS) and Broader Public Sector (BPS) users are critical, as these organizations are 'anchor tenants' to the system and create the underlying foundation that makes it feasible to extend service to private enterprises, small and medium sized business, farmers and residents;
- 7 Sustainability:** all users will pay fees to access the network, which will be published and publicly available to ensure transparency. These fees will provide the cash flow sustainability required to support ongoing operating and capital costs, and ensure that the network will not be dependent on taxpayer subsidies in the future. After Phase 1 is complete and the network is operational SWIFT will collect a small percentage of revenue from the successful Telecom Service Providers (TSPs) from each service sold to consumers over the SWIFT Network. The residuals will be added to SWIFT's Broadband Development Fund (BDF) along with sponsorship funds and more upper level government funding. SWIFT's Board of Directors will use the BDF to continue to subsidize providers to build fibre-optic infrastructure until the entire region has access to fibre-based broadband.

Source: SWIFT (2018)

SWIFT's Guiding Principles establish the key linkages to ensure that regional innovation is possible. The scaling (Guiding Principle #2) of SWIFT is in-built and reinforced by neutrality and open access (Guiding Principle #3). Furthermore, SWIFT is incorporated as a not-for-profit which, once the network is operational, will collect a small residual from the successful TSPs. In the Broadband Development Fund (Guiding Principle #7), residuals will be combined with additional funding from government, where available, to enable the network to accelerate increasingly deeper broadband connections across the region until SWIFT realizes its mission of "broadband for everyone" (SWIFT, 2018).

While still in its preliminary phase, the network architecture proposes optical transport network (OTN) configurations that link up MSCs to the fibre-optic backbone. One OTN is envisioned for Western Ontario and another for the Niagara Region; these OTNs ensure that the role of MSCs is embedded within the SWIFT architecture. With the combined power of over 2200 member sites, SWIFT offers MSCs, and all members, aggregated benefits from the broad coalition of public sector organizations which are anchor tenants on the network.

With the combined power of over 2200 member sites, SWIFT offers MSCs, and all members, aggregated benefits from the broad coalition of public sector organizations which are anchor tenants on the network.

We need every possible partner in the region on board to make sure we can build an efficient, effective, and economical network. Urban cores are undoubtedly better connected than our most rural and remote communities – but having urban centres involved helps increase our market influence, makes the project attractive to service providers, and ensures important geographic and economic hubs are connected not only to each other but to smaller markets. Also, economically challenged neighbourhoods with urban centres are generally not as well served as more affluent neighbourhoods (SWIFT, 2017).⁵

We now turn to look more specifically at how the role of MSCs in the fibre-optic backbone network can be expected to generate benefits of scaled-up broadband connectivity as a regional innovation system.

SWIFT DATA

In this study, we draw on a preliminary dataset based on residential/farm internet user surveys collected by SWIFT as part of its baseline data collection. The SWIFT user-needs analysis dates back to the feasibility stage, and user surveys were re-released in July 2017. SWIFT collects information about internet usage at three main premises: municipal organizations

or utilities, schools, and hospitals (MUSH); businesses; and residential/farm premises within the SWIFT region. This final category is the focus of our analysis.

SWIFT residential/farm surveys are distributed online and in hard copy.⁶ They ask various sociodemographic and technical questions, involving types and costs of internet service, average download and upload speeds, and latency rate of current internet use at premise. The surveys also have questions about user applications and more specific socioeconomic benefit questions related to activities such as home-based business internet use and telecommuting. The SWIFT surveys are ongoing throughout the duration of the investment program in order to create longitudinal datasets for outcome analysis. Such analysis has not been achieved in any previous regional and rural broadband investment project in Ontario. For the purposes of this study, the dataset includes preliminary analysis of data from nearly 4000 SWIFT residential/farm surveys as of November 2017.

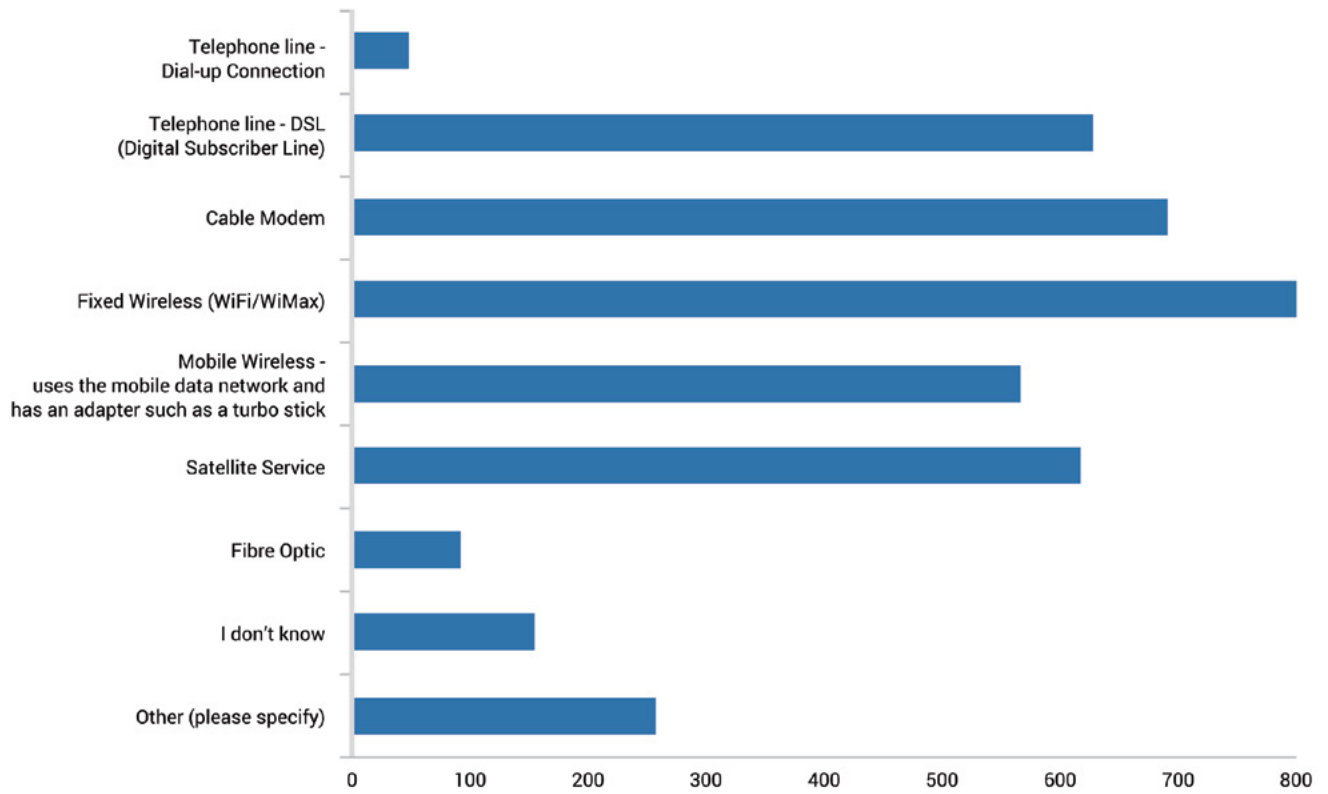
MSCS AND URBAN CONNECTIVITY

SWIFT represents a long-term plan to help SW Ontario develop networking and telecommunications infrastructure to keep pace in a changing digital world and support regional innovation. Connectivity varies substantially across SW Ontario primarily due to the type of connection (fibre/cable modem, fixed wireless and mobile technologies). Whereas MSCs have access to DSL, cable modem, and fibre-optic connections, most surrounding rural areas access the internet through fixed wireless and mobile technologies.

⁵ <http://swiftnetwork.ca/faq/>

⁶ <http://swiftnetwork.ca/survey/>

Figure 2: Type of connection at primary (most used) Internet service at (residential/farm) premise



Source: SWIFT Residential/Farm Surveys



As Table 2 summarizes, internet price and speed among the average residential/farm premise in the SWIFT area varies by dwelling type. The data includes full-time residences that are also farms or home-based businesses. We note that residences that are also farms are paying approximately the same monthly cost for lower internet speeds.

Table 2: Average Internet Price and Internet Speed for all SWIFT User Survey Sample by Dwelling Type

	PRICE (MEASURED IN 2017 CDN DOLLARS)	DOWNLOAD SPEED (MBPS)	UPLOAD SPEED (MBPS)
Home and Primary Residence (2899)	84.6	12.7	8.18
Farm and Residence (624)	85.1	6.52	6.25
Business and Residence (310)	107.2	9.11	6.14
Secondary or Seasonal Residence (77)	79.8	9.19	5.58

Source: SWIFT Residential/Farm Surveys

Note: Number in parenthesis is the sample size. However, this number does not represent the total number of observations used to calculate the columns. This is because some respondents did not answer all the survey questions.

In comparison, average connectivity in MSCs in SW Ontario is substantially higher. In Table 3 we summarize current data from three MSCs: London, Sarnia, and Orillia. Sarnia has higher costs for lower speeds. London and Orillia compare more favourably in price, but not in speeds, with London experiencing much higher internet speeds. Aside from variation among MSCs for connectivity, the data suggests that compared to the overall region which includes more areas surrounding MSCs, internet prices are generally lower and substantially faster (download and upload) as compared to the overall region.

Table 3: Average Internet Price and Internet Speed for Sarnia, London, Orillia and Others*

	PRICE (MEASURED IN 2017 DOLLARS)	DOWNLOAD SPEED (MBPS)	UPLOAD SPEED (MBPS)
London	73.6 (34)	45.1 (27)	11.7 (27)
Orillia	73.8 (59)	24.7 (40)	6.8 (40)
Sarnia	77.6 (225)	20.9 (139)	6.3 (137)
Others*	72.1 (96)	35.9 (71)	9.3 (70)

Source: SWIFT Residential/Farm Surveys

Note: Number in parenthesis is the sample size. * Cities included in 'Others' are: Barrie (10), Brantford (10), Cambridge (3), Guelph (10), Kitchener (17), Niagara Falls (25), St. Catharines (14), Waterloo (6), and Windsor (7)



Residential dwellings within urban MSC areas that are members of SWIFT, such as Sarnia and Orillia, are likely going to benefit individually from network aggregation opportunities. As the data capture from SWIFT surveys increases, and in combination with the MUSH and business user survey data, there will be more in-depth analysis of this preliminary trend.

MSCS AND REGIONAL CONNECTIVITY

Broadband has become an essential part of community infrastructure for **promoting** economic growth **and for providing efficient and effective public services** in the modern era. The SWIFT data suggests connectivity is used to drive many of the modern applications of globally-competitive regions (see Table 4).

Table 4: Internet Use/Applications at Premise

INTERNET USE/APPLICATION	% OF RESPONSES	NO. OF RESPONSES
Email/webmail	88.4	3658
Social media	70.7	3295
Information gathering / internet searches	87.8	3566
Streaming content – voice over internet / TV/ entertainment	83.6	2745
Cloud-based applications – personal use	70.7	1752
Cloud-based applications business use – e.g., connecting to my company's network to access work files	86.5	1009
E-commerce: Online purchasing of products and/or services	74.9	2755
E-business – Customer and/or supply chain communication and service provision	84.8	578
Precision agriculture technologies – data collection/storage/analytics	86.6	223
Adult (not children/teens) e-learning and e-training (e.g. continuing education, online courses, webinars)	76.7	1210
Online education / homework by school-age children/teens	86.6	1197
Access to government / public services	75.1	2782

Source: SWIFT Residential/Farm Surveys

For the purposes of this paper, SWIFT residential/farm survey data suggests connectivity provides immense benefits in terms of telecommuting. For this analysis we refer to the results of a more in-depth econometric analysis presented in a forthcoming paper (Hambly & Lee, 2018). In this recent paper we calculated the typical savings to a telecommuter within the SWIFT area. We found that telecommuters achieve a significant annual surplus of \$13,512 to \$20,568, depending on the number of days telecommuted and the dwelling type (residential, farm, or seasonal dwelling). For dwellings in SW Ontario with more than one telecommuter, the typical savings of the first respondent telecommuting three days a week ranged from \$13,956 to \$17,278 per year; the second telecommuter saved \$13,512 to \$20,568 (again, these results vary depending on the dwelling type). In our final analysis we hypothesize that, as more remote residents and farms as well as seasonal dwellings gain improved access to broadband, the telecommuter surplus will increase.

MSCs will be able to benefit from the range of internet uses. Further analysis of the SWIFT data is needed to establish the relevance of specific applications to net private benefits and social benefits realized within the regional innovation system.

FINAL DISCUSSION AND CONCLUSION

In a preliminary manner, this paper finds that SWIFT is integral to a strong regional innovation where uptake of digital applications underlies social, economic, and environmental well-being. The findings point to a degree of digital inequality between the MSCs and surrounding areas of SW Ontario. The gaps are defined by connection types and based not only on internet speeds, but also on monthly cost of service and user applications enabled by accessible quality of service.

The case of SWIFT suggests that MSCs have an important role within the architecture of a regional broadband network. In regional broadband networks, MSCs may gain distinct membership benefits from connected actions with communities around them. As members, MSCs realize cost-efficiencies as anchor tenants on an aggregated optical transport network. They may also benefit as local economies, since spending the private net surpluses locally (such as the one created by telecommuting) creates surplus elsewhere (such as in the profits made in local retail businesses). Net benefits may



also be realized, for example, reduction in the costs of going over your data plan when unlimited plans become available or more affordable. From the analysis of SWIFT survey data collected from January to April 2018, we found that 58% of residential/farm internet users have a data plan and more than half of these users regularly exceed their monthly data limit. On average, this is an extra cost of \$126 per month.

We believe there are more possible opportunities for connectivity to advance regional innovation. For example, telecommuting reduces the use of automobiles on the roads, resulting in less traffic congestion for other drivers for whom telecommuting is not an option. How then might broadband connectivity be aligned with investments in high-speed train service planned in the region? Furthermore, home-based businesses across the region frequently depend on ultra-high-speed connectivity. Aside from knowing that home-based business' use of internet services is important, we need to know more about how activities such as telecommuting support the start-up of new businesses located in nearby MSCs and across the region.

Therefore, we recommend further research on regional innovation enabled through broadband connectivity in SW Ontario, particularly as MSCs begin to realize the benefits of rural connectivity improving across the region. Our findings do not yet include metrics for worker productivity and firm profitability. Links between connectivity and regional public services (e.g., transit, telehealth) are relevant considerations, especially since the economic outcomes for regional innovation could be much higher. Other economic and social benefits for MSC businesses are likely to be realized. Our findings support recent policy dialogues that identify positive impacts of MSCs on Ontario's overall economy.

In conclusion, as the SWIFT initiative continues to bring connectivity to one of Canada's most densely populated regions, we expect MSCs will continue to feature prominently in SW Ontario broadband partnerships.



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A WELCOME PLACE FOR NEWCOMERS?

IMMIGRATION AND MID-SIZED CITIES

Source: Institute for Canadian Citizenship/Alyssa K. Faoro

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University of Waterloo



INTRODUCTION

Each year, the Canadian government welcomes nearly 300,000 immigrants to the country. In 2016, a year of global unrest, this number was also inclusive of 62,000 refugees, many of whom were being reunified with their families in Canada. Not only is immigration and refugee settlement an important part of Canada's history, but the government also views attracting newcomers as an opportunity to grow the country's population and foster economic prosperity (Government of Canada, 2017). Settling largely in the country's "gateway cities" (Toronto, Vancouver, and Montreal), newcomers are attracted to the urban amenities and opportunities (Walton-Roberts, 2011) found in these larger urban centres. However, an economic divide continues to grow between Canadian cities, with large urban centres thriving as they attract internal migrants, young people, and new immigrants (Florida, 2003; Gertler, 2003). This divide has created what researchers are calling an "uneven interurban geography" (Donald & Hall, 2015) whereby new "fault lines" (Bourne & Simmons, 2003) are opening up between cities creating "have" and "have not" places.

It was, therefore, not surprising that in 2016, then-Minister of Immigration John McCallum publicly shared that he would like to see immigrants settle in rural communities and smaller cities, presumably to help foster local economic development outside of Canada's largest cities. While the Charter of Rights and Freedoms protects newcomers' rights to settle in locations of their choice, countries like Australia and New Zealand now offer incentives to newcomers to settle and find jobs in specific regions that benefit the host country (Barutciski, 2017). In the 2000s, in an effort to connect immigrants with labour market demands outside of the big three cities, Canadian immigration policy began to allow for a greater role for the provinces; the Provincial Nominee Program (PNP)

Not only is immigration and refugee settlement an important part of Canada's history, but the government also views attracting newcomers as an opportunity to grow the country's population and foster economic prosperity.

and Temporary Foreign Worker programs encourage provinces to take a more active role in recruiting newcomers to cities outside of the traditional gateway locations (Ferrer, Picot, & Riddell, 2014).

Preliminary findings from a report on the PNP (Canada, 2017) showed that of the 247,796 Provincial Nominees that arrived in Canada between 2010-2015, 90% spoke English and 81% were between the ages of 18-24. Living primarily outside of gateway cities, over 65% of Provincial Nominees settled in the provinces of Manitoba (24.2%), Alberta (22.4%) and Saskatchewan (19%). An evaluation of the PNP showed that the "vast majority of PN [became] established economically, with high employment rates and employment earnings that increase[d] over time after admission". Provincial Nominees that were surveyed described their first jobs in Canada as "highly skilled" occupations, and three quarters of respondents characterized the jobs being offered as either "commensurate with" or "higher" than their skill level (Canada, 2017).

In her research on immigration in Canadian mid-sized cities, Reese argues the importance of further study on the role that local initiatives can play in "augmenting" (Reese, 2012, p. 315) these types of federal and provincial programs. Reese's policy recommendations include adding a diversity lens to local economic development programs, as well as offering support to help immigrants enter the labour market or

become entrepreneurs. Her recommendations suggest that coordinating these settlement and job training initiatives through local non-profit groups can assist with their overall effectiveness (Reese, 2012).

Given the points outlined above, the purpose of this paper is to, first, examine the current literature on immigration and mid-sized cities. Secondly, using the City of Guelph as a case study example, this paper will provide an overview of the strategies that local institutions in this mid-sized city are using to attract, retain, and support newcomer communities. This paper also aims to highlight the opportunities and challenges faced by immigrants in smaller urban centres and marks the launch of a broader research agenda focused on the institutional response to welcoming newcomers to mid-sized cities across Canada.

MID-SIZED CITIES AND IMMIGRATION

The literature on mid-sized cities presents a dichotomy: on the one hand, mid-sized cities can be lauded for their bucolic settings, ample green space, and high quality of life (Burayidi, 2013; Filion, Hoernig, Bunting, & Sands, 2004; Sands & Reese, 2017), but cities of this size have also experienced significant core area decline due to prolific suburbanization (Brewer & Grant, 2015; Bunting, Filion, Hoernig, Seasons, & Lederer, 2007). The challenges of mid-sized cities,

many of which have a historic manufacturing base, are further exacerbated by an economic shift towards a knowledge-based economy. The networks, connections and talent found in big cities are fueling this new, knowledge-driven economy (Florida, 2002; Madanipour, 2011; Vinodrai, 2015), making it difficult for smaller cities to compete (Gertler, 2003).

The economic development challenge for mid-sized cities is significant. Attracting new companies to smaller centres can be a challenge; cities of this size often lack deep talent pools, regional transit options, and urban amenities, all of which are attractive to a new generation of workers. Research shows that economic development strategies focused on improving quality of life, funding the public realm, and supporting “human capital” through employment and entrepreneurship programs (Leigh & Blakely, 2017; Reese, 2014; Sands & Reese, 2017) appear to have the greatest impact on local prosperity in mid-sized cities. As mid-sized cities grapple with transitioning their economies, maintaining their populations, and creating jobs, researchers offer evidence of the important role that immigration can play in the social and economic health of cities.

The scholarship on mid-sized cities and immigration highlights the value of attracting immigrations to smaller cities (Burayidi, 2013; Carr, Lichter, & Kefalas, 2012; Reese, 2012; Sands & Reese, 2017; Teixeira, 2009; Walton-Roberts, 2011). Burayidi’s “EnRICHED”

Research shows that economic development strategies focused on improving quality of life, funding the public realm, and supporting “human capital” through employment and entrepreneurship programs appear to have the greatest impact on local prosperity in mid-sized cities.

Research finds that a community's "openness" to newcomers directly correlates to economic growth.



model of downtown revitalization in mid-sized cities identifies "courting new immigrants" (Burayidi, 2013, p. 73) as a key strategy for building a downtown population and bolstering the labour market. His research finds that a community's "openness" to newcomers directly correlates to economic growth. Burayidi is careful to point out that economic growth is one outcome of immigration to smaller urban centres, and he argues in favour of creating a culture that celebrates diversity and welcoming newcomers into the civic fabric of a city.

Contrasting the experiences of two smaller American cities, Carr et al. ask whether immigration can quite literally "save" small town America (Carr et al., 2012).

Undertaking research in two declining small American towns, they uncovered differential approaches to welcoming new immigrants. Carr et al. argue that local leadership is instrumental in creating policies and a culture that can either divide or include newcomers (2012). Similarly, Canadian researcher Walton-Roberts explores the important role that government policy plays in attracting immigrants to "second tier", or smaller, Canadian cities (2011, p. 453). She illustrates how, through policy tools, smaller cities in southern Ontario are beginning to challenge the traditional "first tier" gateway cities and are becoming viable options for newcomers. Outlining a number of national and provincial programs aimed at attracting newcomers to mid-sized cities, Walton-Roberts finds

Immigration can provide a much-needed population boost, but also immigrants can offer additional diversity and entrepreneurial thinking, and can ultimately help foster local economic development.

that universities are a key player in this dynamic. Not only are universities actively recruiting international students, but they also have been found to act as an important “buffer” with respect to mitigating discrimination experienced by newcomer students to Canada (2011).

Implicit in this research is the notion that small and mid-sized cities can benefit from immigration. Immigration can provide a much-needed population boost, but also immigrants can offer additional diversity and entrepreneurial thinking, and can ultimately help foster local economic development (Reese, 2012) in smaller centres. What emerges as a key concern

in the research, however, is the varied reception that new immigrants receive in smaller cities. Research shows that discrimination in the labour market and issues around recognizing foreign credentials (Ferrer et al., 2014) can present real barriers to newcomers accessing employment. Moreover, the culturally homogenous nature of smaller cities in Ontario can present challenges to new immigrant integration. This speaks to the importance of social planning at the municipal level in smaller cities and, more specifically, to the importance of creating programs and providing services and support to a diversifying population.

CITY OF GUELPH



The City of Guelph is located an hour west of Toronto; with a population of 131,000 residents, it is a single-tier, mid-sized city. Guelph boasts a historic downtown core, a top-ranked comprehensive university, and an economy steeped in agribusiness and advanced manufacturing. In 2006, downtown Guelph was also designated an urban growth centre by the province of Ontario, meaning that the city's core area would have to achieve a targeted 150 jobs and residents per hectare in its core, and the city would have to grow to an overall population of 191,000 by 2041

The 2018 Guelph Community Foundation Vital Signs report showed that one out of every five Guelph residents immigrated to Canada, and that 20% of citizens speak a first language other than English.

(Ontario, 2006). Despite these advantages, Guelph has also experienced some degree of core area decline, driven by extensive residential and commercial suburbanization (Bunting et al., 2007), and it struggles with similar challenges faced by other cities of this size—namely, its ability to coordinate regionally to support new enterprise and to attract federal and provincial funding for much-needed infrastructure investments.

In 2016, *MoneySense*, a magazine popular for ranking cities, named the City of Guelph one of the top ten places in Canada for newcomers to settle (Brown, 2016). *MoneySense's* data showed that a low unemployment rate coupled with a growing immigrant population and affordable rental housing made Guelph an ideal spot for newcomer settlement. The 2018 Guelph Community Foundation *Vital Signs* report showed that one out of every five Guelph residents immigrated to Canada, and that 20% of citizens speak a first language other than English (O'Rourke, 2018). A scan of local services shows that the City of Guelph offers a range of services to newcomers through non-profit groups, local higher education institutions, and faith-based organizations. In addition to traditional settlement services such as providing language and job search training to newcomers, several new programs have been launched in recent years targeted at immigrant employment and community engagement.

The Local Immigration Partnership announced in 2018 that it had received provincial funding to create an Immigrant Entrepreneur Program targeted at providing additional employment supports to newcomers. Conestoga College offers counselling to newcomers who are looking to have their credentials evaluated against Canadian standards. The local Volunteer Centre, in partnership with Immigrant Services, launched a New on Board program focused on attracting newcomers to leadership roles on local boards and committees.

In addition to its long history of immigration, in 2015 Guelph became known, both nationally and internationally, as a settlement location for newcomers when local business owner and philanthropist Jim Estill personally donated \$1.5 million to sponsor 58 Syrian refugee families. Creating a vast network of local volunteers and a system of support for newcomers, Estill's approach to refugee settlement leveraged community organization and local businesses. Applying his business acumen, Estill organized teams of local volunteers to oversee everything from housing to mentorship to education. Estill's company, Danby, offered a tailor-made Ease Into Canada program, training newcomers on the job and teaching English over shared lunches (Mann, 2016).

However, despite these important local initiatives, the same year as *MoneySense Magazine* positioned Guelph as a top-ranked city for newcomer settlement, findings from the Guelph-Wellington Local Immigration Partnership (GWLIP) immigrant survey (Dipti & Ella, 2016) were released—and GWLIP’s data tell a more complex story of the challenges newcomers have faced integrating into Guelph and cities in the surrounding region. With 59% of respondents describing themselves as “economic immigrants”, one-third of respondents reported feeling “out of place” at school or work; 44% were not working in their field of training; 42% reported not always having access to healthy food; 58% found housing to be “somewhat” or “not” affordable; and 35% were unemployed (Dipti & Ella, 2016). GWLIP’s report also offers policy recommendations that are focused on: increasing the inclusion of newcomer perspectives, on such things as housing and food security issues; better disseminating government information about transit and foreign credential recognition; and ensuring that newcomers are consulted on local recreational initiatives and programming for public spaces.

While these findings are cause for concern and highlight a disconnect between federal immigration programs, local initiatives, and the lived experience of newcomers in Guelph, they also provide valuable insight into the real challenges faced by newcomers outside of larger urban centres.

NEXT STEPS: A MID-SIZED CITY IMMIGRATION RESEARCH AGENDA

This preliminary review of the literature on immigration and mid-sized cities emphasizes the importance of coupling local initiatives with federal immigration programs (Reese, 2012) to foster overall community economic prosperity. The literature also speaks to the importance of community openness (Burayidi, 2013) and local leadership (Carr et al., 2012) when integrating newcomers into smaller urban centres. When the scholarship in this area is coupled with a scan of services and programs offered in the mid-sized city of Guelph, Ontario, it exposes an important disconnect between government programs and immigrant experiences, which is worthy of additional research.

Guelph-Wellington Local Immigration Partnership Survey Results

- 59% self-identify as “economic immigrants”
- 33% reported feeling “out of place” at school or work
- 44% are not working in their field of training
- 42% do not always have access to healthy food
- 58% found housing to be “somewhat” or “not” affordable
- 35% were unemployed




Credit: Institute for Canadian Citizenship/Julian Haber

There are innumerable questions to be answered on this topic, and the next phase in my research will involve site visits, key informant interviews, and focus groups that will explore the following: what role do local institutions play in welcoming and retaining newcomers? What are the outcomes of programs targeted at immigrant inclusion? Are there effective newcomer programs and services in larger urban centres that can be adapted for mid-sized cities? What are the specific benefits and challenges for immigrants settling in mid-sized cities? What role does the adoption of a city-wide diversity strategy play in immigrant settlement and inclusion?

The research tells us that immigration is an important component of local economic development in smaller urban centres. Immigrants bring credentials, entrepreneurial thinking, and diversity to these cities. With new, proactive government efforts to attract newcomers to locations outside of the traditional gateway cities of Toronto, Montreal and Vancouver, there's an opportunity for mid-sized cities to undertake additional research and evaluations of programs and supports offered to newcomers. Not only would this research expose any gaps in service provision, but it would also begin to expose whether local initiatives are either 'one-offs' or part of a broader strategy to support diversity and immigration.

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INDIGENOUS— MUNICIPAL RELATIONS BEYOND CONSULTATION

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“Canada’s formation is not a simple horror story; nor is it the product of a gloriously pure birth. Canada is simultaneously a good and bad place with contested foundations, though severe power imbalances make it much better for some people than others. [...] The truth is that Canada’s formation does not just rest on racism, force, and discrimination. Canada is also rooted in doctrines of persuasion, reason, peace, friendship, and respect. While Canada’s ongoing creation is deeply flawed, it also contains various positive qualities which enhance many lives.” (p. 19, Borrows, chpt 1 in Borrows & Coyle)

INTRODUCTION

I am a Scottish-Irish settler¹ Canadian, with roots in the cultural and institutional foundations of this settler nation. The focus of my work and research is on the intersection of land use planning and Aboriginal and treaty rights. As I learn more about my own family and cultural roots, and as I realize the privilege of living in this land, I see it as my responsibility to take the time to better understand the Indigenous history and current context of the place(s) I call home, and to endeavour to walk along a path of reconciliation. According to the Truth and Reconciliation Commission (TRC, 2015), reconciliation is about “establishing and maintaining a mutually respectful relationship between Aboriginal and non-Aboriginal peoples in this country. In order for that to happen, there has to be awareness of the past, acknowledgement of the harm that has been inflicted, atonement for the causes, and action to change behaviour” (p.113). As I write this, I am on the territory of the Mississaugas of the New Credit First Nation.² This land hosts a patchwork-quilt of overlapping territories: as well as the Mississaugas, this is the traditional territory of the Haudenosaunee Confederacy and the Huron Wendat and Petun Nations. It is subject to the Dish With One Spoon Wampum Belt Covenant, a treaty agreement between the Iroquois Confederacy and the Ojibwe and allied nations to peaceably share and care for the resources around the Great Lakes.³ Most recently, settler communities have made this place home, and called it Toronto⁴ within a province, within a federation—another collection of layered assertions of sovereignty. Such a personalized introduction to a discussion paper is rather unconventional; however, one lesson that has been shared repeatedly by the elders and authors I have met is that one must begin by sharing with her audience a little of where she is coming from, so they can better understand what she is sharing. As you read this, where are you sitting or standing, exactly? What is the name of that place? Whose territory, whose land are you on? These are questions that we must ask ourselves, as citizens of this nation, regardless of where we stand in cities across Ontario or Canada; residents, stewards, and leaders of these communities of all sizes are responsible for understanding on whose land they stand and the historical context that predated settler conquest.

¹ By “settler” I mean a non-Indigenous person and society. Throughout this paper I attempt to push back against the *us v. them* narrative, and the idea that these problems are “Indigenous problems.” On the contrary, “we,” all of us living on Turtle Island/North America, have inherited the strengths and weaknesses, the “problems”. I also make use of personal pronouns in an attempt to raise the notion of personal responsibility that I believe we each hold, as Canadians, to strive towards an understanding and practice of reconciliation.

² Wherever possible, I use the name of a Nation. When speaking more broadly, I use the terms Indigenous, unless referring to legal/government policies, in which case “Aboriginal” may be used. When referring to this land prior to European settlement I will refer to it as Turtle Island. When referring to it now, I may refer to both Turtle Island and Canada.

³ Adapted from the statement developed by the Elders Circle (Council of Aboriginal Initiatives).

⁴ Tkaronto is a Mohawk word meaning “a gathering place,” and its association with what is now Toronto has a circuitous history. For more on this, see Jeff Gray’s article “A defining moment for tkaronto”

With a land acknowledgement, while we point to Indigenous autonomy, we also acknowledge an almost unbelievable history of loss, broken promises, and forgotten relationships. The tensions that exist now around “whose land this is” are not new, although since the assertion of European, and now Canadian, sovereignty, the balance of power has shifted unhealthily to favour the Canadian state to the extreme detriment of Indigenous peoples, leaving a landscape of broken treaties.⁵ While acknowledging traditional territories and starting to make public references to the presence of treaties has been a significant development for many people, and though this development has accompanied a shift in the formal tone of public discourse, there are many who criticize such land acknowledgements as hollow, arguing that they mostly serve to assuage settler peoples’ guilt over a colonial history without actually examining the personal and public implications of such an acknowledgment (Vowel/âpihtawikosisân, 2016; Marche, 2017). And so we must ask: when settler peoples articulate a land acknowledgment, how much does that act truly acknowledge the significance of land? Do we examine what land means to us? Do we examine the values that we each hold, which undergird our decisions around the ways that we choose to care for, and share land with, one another?

After hundreds of years of non-Indigenous settlement on this land, the relationship between settler and Indigenous societies is strained, to say the least. Through state-led and state-supported policy and actions, myriad Indigenous peoples have been alienated from their lands, practices and cultures, communities, and health and well-being. In order to get the attention of settler society, Indigenous communities have had to resort to legal actions (that is, once it

After hundreds of years of non-Indigenous settlement on this land, the relationship between settler and Indigenous societies is strained, to say the least.

was made legal for them to do so [RCAP, Vol.2, Part 2, Section 5.1.6]). The Truth and Reconciliation Commission (TRC) emerged out of the Indian Residential Schools Settlement Agreement in 2008, and the Royal Commission on Aboriginal Peoples was commissioned as a result of the violence that erupted at Oka, Quebec in 1990. Today, tensions remain high; however, interesting changes are afoot. Ontario’s Provincial Policy Statement of 2014 now makes reference to “Aboriginal interests,” enjoining planners to take note of Aboriginal and Treaty rights enshrined in the Constitution, and ensure their actions do not flout these rights. Many provinces have legislated policies or draft policies around consultation processes (Ariss, MacCallum Fraser, Somani, 2017), and some municipalities are taking proactive steps to establish good working relations with Indigenous Nations in whose territory they reside.⁶

Much of the discussion around Indigenous–municipal relations has revolved around the legal concept of consultation—specifically, the duty to consult and accommodate. Planners and city-builders are increasingly calling for clarification on what that “duty” actually means, and what their obligations are. While the Provincial Policy Statement (PPS 2014) now makes reference to Aboriginal and treaty rights, there is little guidance for planners to ensure these rights are incorporated at a lower level. While an explanation of the duty is necessary, rather than prioritize a (western) legalistic interpretation of relationships, this

⁵ For more on the history, see the RCAP Report, especially “Part Two: False Assumptions and a Failed Relationship.”

⁶ See the Federation of Canadian Municipalities *Community Economic Development Initiative*



Mother Earth: The Legend of Aataentsic, Parc Jacques-Cartier, Gatineau, Quebec

Source: *A Journey Through the Imaginary of the First Nations, MOSAÏCANADA 150*

discussion paper will make use of the idea of relationship-building as a framework within which to discuss consultation. Part one of the paper will look at treaty-making as a way to illustrate both how and why Indigenous–non–Indigenous relationships soured, but also where there is potential for healing. Part two will look at the duty to consult and accommodate in order to examine one way in which these issues are being addressed currently. The conclusion will bring us to the question: “So what do we do now?” Here, we will explore what is perhaps needed in order to nurture good relations and walk along a path of reconciliation. As leading Indigenous and Aboriginal law

specialist Dr. John Borrows points out, law is living; it grows and evolves as communities and societies grow and evolve (1997, 2010, 2016). It is society that shapes the law, not the other way around. How do we begin to make those changes in a good way?⁷

PART 1: THE FOUNDATIONS OF RELATIONSHIP-BUILDING

TREATIES

For the most part, we are indeed all treaty people. With the exception of a few nations who chose not to sign a treaty with settlers or whose territory includes unceded land, Canadians live on this land thanks to the generosity of Indigenous nations generations ago, who chose to welcome the new arrivals (for the most part), inviting them into treaty with their own nation and by extension with Creation (Stark, 2017). Treaty-making has taken place for thousands of years on Turtle Island (which includes what we now know as Canada) and around the world. When European explorers and settlers arrived on Turtle Island, they were welcomed into already-established treaties based in the land, some established at the time of Creation,⁸ and others more recently. Treaties were, of course,

⁷ In footnotes throughout the paper, I make reference to various resources to help you begin or deepen your own learning along the path of reconciliation.

⁸ While treaties are conventionally understood as being between nations, they can also be a formal agreement between humans and plants, animals, or other beings in creation. To so-called secular ears, this may seem strange; and yet, western law acknowledges personhood rights of corporations (non-human entities), and in recent years rights have been granted to bodies of water. For more on treaties, see Alan Corbiere speaking on the 250th anniversary of the Treaty of Niagara. And for more on Creation stories, see works by author Basil H Johnston. To see how Creation stories are used a legal frameworks, see the works of John Borrows and Heidi Stark, for example.

not unique to Indigenous peoples; for example, the Egyptian–Hittite peace treaty, otherwise known as the Treaty of Kadesh, was made around 1258 BCE (well over three thousand years ago). More recently, back on Turtle Island, new treaties were created with the arrival of European explorers and settlers, to ensure peaceful and mutually beneficial relationships. Today, the Canadian government is engaged in treaty negotiations with multiple nations internationally, as well as with various First Nations within Canada.

When treaties were signed on Turtle Island between Indigenous nations prior to the arrival of Europeans and, later, between Indigenous and European nations, aspirational and metaphorical language was often used to illustrate the importance and long-term nature of the relationship—thus you hear phrases such as *as long as the grass grows, and the water runs*.⁹ The promises to which treaties of peace and friendship bore witness have been remembered through the generations by Indigenous nations across the land, in spite of the state’s best efforts.¹⁰ However, they have largely been forgotten by the settler nation. While children in schools within the Haudenosaunee territories learn early on of their responsibilities and obligations to treaties that their human and non-human ancestors made (Kimmerer, 2013, p.105), settler children are only just beginning to learn something of the peoples whose generosity enabled the early settlers to survive and eventually thrive (Vowel, 2015). Most Canadian citizens have not grown up with an awareness of this history and these relationships as part of their foundational knowledge of

“Canada.” Nevertheless, this is a history we inherited when we were born or settled here.

There have been many treaties signed on Turtle Island/North America—between Indigenous nations, and between Indigenous nations and settler nations and peoples. In southern Ontario, for example, there is the Indigenous treaty the Dish with One Spoon (mentioned above), and the Two-Row Wampum, an Indigenous–settler treaty.¹¹ The Dish with One Spoon, originally an agreement between Anishinaabeg and Haudenosaunee, illustrates for us how to peacefully share in the wealth of the land. The Two-Row Wampum illustrates for us how we might live alongside one another without one nation interfering with another nation’s way of life or pathway. These treaties illustrate ways that various peoples agreed to live in Right relationship with one another while trying to walk the path of *Mino-bimaadiziwin*.¹² And there are treaties of a similar nature to be found across the land.

One treaty that is of particular significance is the Treaty of Niagara (1764), in part because of the number of nations present from across the continent at the time of its signing, but also because of its connection to the Royal Proclamation of 1763 (Borrows & Coyle, 2017; Corbiere, 2014; Tidridge, 2015). The gathering at Niagara brought together more than 2000 Indigenous peoples (appointed as representatives by their nations) from myriad nations, including the Senecas, Mississaugas, Odawa, Potawatomi, Saukteaux, Dene, and Plains Cree, among many others. The Treaty

⁹ For more context, see the Eighth Fire documentary “This is how long these words will last.”

¹⁰ See the TRC Report, especially in *What we have learned: Principles of Truth and Reconciliation*.

¹¹ For more context on treaty-making in general, see Anishinaabek Nation interview with Hayden King; Harold Johnson (2007) *Two Families: Treaties and Government*. Saskatoon: Purich Publishing, Ltd.; and the RCAP Report, especially “Part One: The Relationship in Historical Perspective.”

¹² The Anishinaabe concept of living life in a good way. Anishinaabemowin (Anishinaabe language) is deeply layered and philosophical, and so the simple translation of “a good way” or “good life” is too simplistic. To begin learning about *mino-bimaadiziwin*, see the Seven Generations Education Institute.

Treaty-making was a deeply important facet of the formation of what would come to be known as Canada, yet it does not make up a fundamental part of settlers' understanding of what it means to be Canadian.

of Niagara focused in particular on how the Crown would share land with Indigenous nations, making great use of the language tradition of kinship—an Indigenous tradition that the Europeans adopted. This Treaty was critical in enabling European settlement to continue (though settlement did not continue in the spirit of mutual aid set out in that treaty).

The problematic nature of record-keeping aside, it has been made clear that treaty-making was a deeply important facet of the formation of what would come to be known as Canada, yet it does not make up a fundamental part of settlers' understanding of what it means to be Canadian.

ACKNOWLEDGEMENT & CREATION STORIES

Perhaps you've been to an event that opens with an Elder speaking prayers, guests being smudged, tobacco being given as thanks for someone sharing the gift of their knowledge with the group. You may have heard reference to Creation¹³ and perhaps a story that constitutes part of a Creation story. You may have wondered *"what does this have to do with this meeting?"* Scholars and knowledge keepers tell us that sharing Creation stories is a way of drawing on Indigenous laws; indeed, Creation stories "give shape and meaning" to Indigenous laws (Stark, 2017, p.251). Through these stories a unique set of ethics emerges, thus grounding the event in an alternate point of view that has largely been "eclipsed by narrow court-driven focus on rights" (Stark, p. 252).

The Truth and Reconciliation Commission report called on Canadians to acknowledge Indigenous

ways of knowing and doing, and to look at the worldview of Indigenous peoples as valid and important epistemologies, significant in their own right, and from which we would do well to learn. While the overarching focus of the TRC was on the history and impact of the Indian Residential Schools, their exploration of the issues touches upon every aspect of life, from land and sovereignty to food and justice. The TRC report drew on earlier commissions (eg. RCAP, 1996; Ipperwash, 2007), which called for similar actions and articulated this kind of awareness-building as one element along the path of reconciliation. Beginning an event with an opening ceremony led by a local Elder is one way to shift the dynamic so that the day is begun with an Indigenous perspective, thus interrupting the primacy of a settler narrative. As scholar Heidi Stark (2017) and others point out, much of Indigenous law is drawn from Creation stories, and that goes for Treaties too: the discussions that preceded the agreements often included reference to Creation, and thus invited both parties into relation with Creation and with Indigenous ways of knowing. In being invited into Treaty with Indigenous nations, settler peoples were invited into Indigenous legal practices, and into relationship with the Creator and the pre-existing responsibilities and obligations that accompanied any relationship with Creation. This is particularly significant when it comes to decisions around land, for, as Anishinaabe legal scholar Dr. John Borrows says, "Many Indigenous people believe their laws provide significant context

¹³ For example, within the Introduction (p. vi) of Indigenous Policy Framework for the City of Calgary.

and detail for judging our relationships with the land, and with one another” (p.253).

WRITTEN VS. ORAL TRADITIONS

Settler society has largely ignored the significance of treaty agreements, while also disregarding the language of love and kinship woven into some of the Treaty discussions (Borrows, 2017). Borrows follows up the statement above by saying “Yet, Indigenous laws are often ignored, diminished, or denied as being relevant or authoritative in answering these questions” (Stark, p.253)—that is, the questions around our relationships with the land, and with one another. There are many explanations for this dismissal of Indigenous law. One significant explanation, particularly with respect to Treaties that articulated how land was to be shared, is that the settler parties kept the written documentation of treaty negotiations as their go-to reference, mostly to exclusion of the discussions which took place alongside such written documentation. While much of that discussion would have involved Indigenous languages, a Crown representative would have been at least partly engaged in the discussion through translators. A record of what was agreed to in these discussions was usually made by Crown representatives, though in many cases, what was written down did not earnestly reflect the discussions that had taken place. Indigenous nations involved in discussions were also making record of the agreements, orally, and these records have been corroborated across other oral and written accounts. This accurate practice of record-keeping was noted at various times by Crown officials (Corbiere, 2017). Though they were often omitted from the official (ie. Crown) record, these discussions often remain the most significant portion of treaty negotiations for many Indigenous peoples. Herein lies one of many key tensions between Indigenous and non-Indigenous ways of knowing and doing: whereas settlers privileged the written word, Indigenous peoples privileged the oral documentation of the agreements. In part due to that difference, and also to the different

understandings of what these documents signified, Treaties remained in the cultural consciousness of Indigenous peoples yet faded from the consciousness of settler society. The significance of this tension is being demonstrated still today, as courtroom discussions incorporate testimony of Indigenous knowledge keepers who learned much through oral story-telling. Indeed, oral traditional knowledge was used in the 2014 Tsilqot’in case at the Supreme Court of Canada, as well as other cases in Canada and Australia (Ray, 2015).

RELATIONSHIP WITH THE LAND

Alongside the tension brought about by the cultural amnesia that enabled settlers to forget about their Treaty relationships lies the tension surrounding our relationship with the environment (that is, with Cre-

Herein lies one of many key tensions between Indigenous and non-Indigenous ways of knowing and doing: whereas settlers privileged the written word, Indigenous peoples privileged the oral documentation of the agreements. In part due to that difference, and also to the different understandings of what these documents signified, Treaties remained in the cultural consciousness of Indigenous peoples yet faded from the consciousness of settler society.

ation) and with one another. This tension simmers constantly below the surface, bubbling up around conflicts such as the crises at Oka in 1990 and Caledonia in 2006, both of which remain at issue today. It also arises at various points of conflict around Indigenous and settler use of bodies of water in what is known by some as “cottage country.” It arises in the conflict between extractive industries and Indigenous nations who are often at the front lines of resisting new oil extraction developments. Less obviously, this tension emerges in environmental movements that characterize Indigenous communities as saviours of the land, and yet vilify practices such as hunting that often go hand-in-hand with monitoring the land.¹⁴

It is impossible to define in one sweep the diverse group of Indigenous nations’ relationship with the land within Turtle Island/Canada. However, by listening to various Indigenous voices, one comes to understand that, broadly speaking, Indigenous values around land are rooted in the notion that land holds intrinsic value, and that humans hold responsibilities to enable the land to uphold its own obligations. As Chief George Desjarlais pointed out to the Royal Commission on Aboriginal Peoples,

although we exercised dominion over these lands prior to the coming of the foreigners, our values and beliefs emphasized stewardship, sharing and conservation of resources, as opposed to the foreign values of ownership, exclusion and domination over nature. Proprietorship over use of resources within a traditional land base was a well-established concept that influenced our relations among ourselves as a people, and with other people who entered our lands from time to time. (RCAP, Vol 2, Part 2, Chapter 4.3.2)

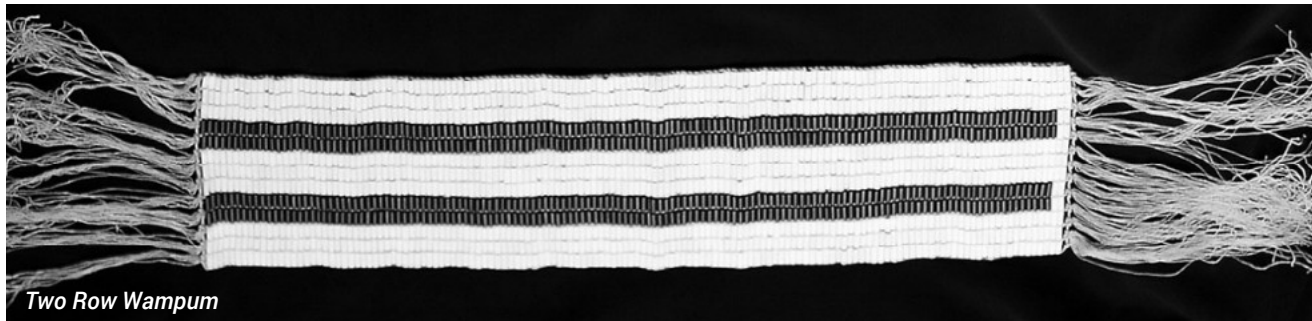
This broadly-held relationship with land sits in tension with the non-Indigenous (“western”) peoples’ relationship with land, which is (again, broadly-speaking) centred on notions of private ownership and monetary potential (Dorries, 2012; Dixon-Gough, et al, 2017; Van Wagner, 2013). This distinction was not well understood at the time of signing treaties, nor is it clear to many people today.

CEREMONY

In her book *Braiding Sweetgrass*, Robin Wall Kimmerer points out that “ceremony focuses attention so that attention becomes intention. If you stand together and profess a thing before your community, it holds you accountable” (p.249). She continues, saying: “In many indigenous communities, the hems of our ceremonial robes have been unraveled by time and history, but the fabric remains strong” (ibid). Ceremony is integral to Indigenous ways of knowing and doing. Haudenosaunee peoples hold and share the Great Thanksgiving Address, which is meant to centre a person or a group of people around the act of giving thanks for what we are given.¹⁵ The act of settler communities beginning events with land acknowledgements could perhaps be seen as an act of ceremony, yet more often than not the implications of that acknowledgement are not examined or explored by the organisation—neither when it decides to adopt such a ceremonial statement at the event itself, nor afterwards. Kimmerer points out that while settler peoples do indeed have ceremonies, those that endure “are not about land; they’re about family and culture, values that are transportable from the old country. Ceremonies for the land no doubt existed there, but it seems they did not survive emigration in any substantial way” (p.250). Earlier she points out

¹⁴ To learn about these various tensions, see Robin Wall Kimmerer’s book *Braiding Sweetgrass*; Arthur Manuel and Grand Chief Derrickson’s book *Unsettling Canada*; Julien Gignac’s Toronto Star article “Bitter land dispute”; D.H. Taylor’s recent play *Cottagers and Indians*; A. Arnaquq-Baril’s documentary *Angry Inuk*

¹⁵ For an introduction to the Thanksgiving Address, see Skä•noñh - Great Law of Peace Center’s video on the Address.



Source: See References

that the withering away of ceremony in settler society is likely due to several reasons: “the frenetic pace of life, dissolution of community, the sense that ceremony is an artifact of organized religion forced upon participants rather than a celebration joyfully chosen” (p.249). Not only has settler society chosen to forget the promises made through treaties, and the responsibilities we gained through those agreements, but it has displayed a level of suspicion towards ceremonies that makes being open to Indigenous ways of knowing and doing, as the TRC called for Canadians to do, incredibly challenging.

Indigenous treaties are a kind of ceremony, one that, through the responsibilities highlighted and invoked, honours the relationships between people in relationship with the land. Treaties into which subsequent settlers were welcomed, such as the Dish with One Spoon and the Two-Row Wampum, call for the various peoples to live peaceably together and to enable our mutual flourishing (Hill, 2016). We are to honour and respect one another’s ways of knowing and ways of doing. In order to respect and honour each other, however, each side must strive to learn about the other. Indigenous peoples have been forced to learn about settler peoples. Settler peoples, on the other hand, have had the luxury of choosing *not* to learn about those peoples whose generous welcome enabled us to make a home on this land. Many Indigenous people will articulate the profound differences in values between Indigenous and settler society, yet for many settler peoples this particular difference remains invisible. Canadian laws and institutions are

founded on values and principles that seem to be universal, and yet they are not universally held (Mills, 2016). And so, how do we try to walk along a path of reconciliation? How do we start to make a shift away from privileging western value systems and ways of knowing, and instead begin to make space for Indigenous ones?

LOOKING TO UNDRIP

In 2007, the General Assembly of the United Nations adopted the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). This adoption was the result of an incredible decades-long effort by an international group of Indigenous activists. Initially, Canada was one of four nations (along with Australia, New Zealand, and the United States of America) that voted against it; in 2016, Canada removed its objections to the Declaration. In 2017, the Liberal government declared it would back calls to fully implement UNDRIP. Subsequently, however, Justice Minister Wilson-Raybould stated that implementing the Declaration was “unworkable,” though she soon relented, stating that implementation of UNDRIP would be unconditional, though limited by Canadian law (Palmer, 2017). What *would* it mean to implement the various declarations of UNDRIP, many of which¹⁶ uphold the rights of Indigenous peoples to maintain cultural practices that have implications for

¹⁶ See in particular UNDRIP Articles 5, 9, 13, 29, and 34.

how people live in relation with one another and with the land? The Canadian state and settler society upholds a social contract as that which binds society together through notions of individual rights, while many Indigenous societies uphold a different social contract, such as one that is rooted in the primacy of mutual aid (Mills, 2017). What are the implications for our social structures, if we do indeed attempt to travel alongside one another without interference, as the Two-Row Wampum calls us to do? This is a critical question for us today, as we seek to redress our violent history.

When treaty rights are broken and forgotten, as they have been across the land, there is no longer a forum within which to discuss these issues—court processes are costly and adversarial, and too often the only recourse is conflict (Borrows & Coyle, 2017, p.4). These conflicts then foreground the conversations around relationships and reconciliation instead of around forming a deep ethical foundation upon which to cultivate good relations. And yet, it is to the legal framework that many are turning. Let us look, then, to the duty to consult and accommodate: a legal framework for relationship-building.

PART 2: DUTY TO CONSULT AND ACCOMMODATE – A LEGAL LANDSCAPE

The duty to consult and accommodate Aboriginal peoples is a legal framework within which to envision relationships between Crown and Indigenous peoples in Canada. It is understood by some as one way to walk along the path of reconciliation, to advance the objective of reconciling pre-existing Aboriginal societies' sovereignty and Crown sovereignty, and to uphold Aboriginal rights within the constitution. Yet by others, given the Crown's ability to override Aboriginal and treaty rights in favour of the "public good," the duty is seen as further enabling Crown exploitation of resources and the watering-down of the nation-to-

What are the implications for our social structures, if we do indeed attempt to travel alongside one another without interference, as the Two-Row Wampum calls us to do?

nation relationship between the Crown and Indigenous nations (Ariss, MacCallum Fraser, Somani, 2017, p. 6-7). This duty appears increasingly in provincial and municipal policies and is implemented in a variety of ways, such as notifications on zoning amendments sent from municipal planners to neighbouring First Nations, the creation of archaeology management plans, and requests for First Nation involvement in municipal government ceremonies. But what exactly is the duty to consult and accommodate ("the duty"), from what did it emerge, and what does it call for?

HISTORICAL CONTEXT

In 2004 and 2005, three cases appeared at the Supreme Court of Canada (SCC) creating a legal watershed moment for Aboriginal rights with respect to the honour of the Crown. This trilogy of cases, *Haida Nation v. BC*, *Taku River v. BC*, and *Mikisew Cree v. Canada*, demonstrated and affirmed that the Crown, whenever it is aware that its activities may have an impact on or infringe Aboriginal and treaty rights, must consult on the impacts that affected Aboriginal groups may experience and accommodate the continued exercise of their rights. Moreover, the purpose of this duty, as illustrated in particular in *Mikisew Cree*, is the "reconciliation of Aboriginal and non-Aboriginal peoples and their respective claims, interests and ambitions (*Mikisew Cree First Nation v. Canada [Minister of Heritage]*, 2005)." Although this trilogy of SCC cases provided significant clarity on the matter, the courts had been working towards this point for years.

CONSULTATION & ACCOMMODATION REQUIREMENTS

Crown consultation of Aboriginal groups' rights was first mentioned in *R v. Sparrow*, 1990, though most case law on the duty to consult and accommodate has focused predominantly on "consultation" rather than the critical second part of "accommodation" (*R. v. Sparrow*, 1990). Within this concept lies the notion that the "honour of the Crown" is at stake, when it comes to the Crown's dealings with Aboriginal peoples. A recent paper by Felix Hoehn and Michael Stevens (forthcoming) point out that this is a "constitutional principle"¹⁷ which can be traced to the Crown recognizing its obligation of honourable dealing in the Royal Proclamation of 1763, in which the Crown pledged to protect Aboriginal peoples from exploitation" (p.7).

The core aspects of the duty are:¹⁸

- > that it is easily triggered, even with only minimal knowledge that a claim or right may be infringed by Crown activities;
- > that consultation must reflect the honour of the Crown and must be meaningful such that it reflects the Crown's intent to meaningfully, substantially, address Aboriginal concerns.
 - consultation must occur *before* the proposed Crown activity
 - consultation must provide information about the proposal, and give reasonable opportunities to respond, a process which may include funding so as to enable the Aboriginal group's participation, as well as sufficient time in order to respond
 - the Crown should use the knowledge gained through consultation to accommodate the exercise of rights by integrating that knowledge into its proposal

- > that the scope of the duty is not limited to immediate impacts, rather it applies too to overarching projects and high-level strategic decision-making processes that may impact Aboriginal rights
- > that the procedural duty is tied to substantive Aboriginal rights

Strengths

Some strengths of the duty to consult and accommodate are that (in theory, if not in practice) it:

- serves as an easily-triggered mechanism to protect Indigenous land rights
- is a Crown duty
- must be conducted prior to the rights being impacted
- extends in theory to overarching projects, though this remains a challenge particularly with respect to small aggregate projects that may be conducted by different municipalities or companies but which, taken as a whole, constitute a significant impact
- substantively addresses Aboriginal peoples' concerns *and* accommodates the exercise of their rights.

Limitations

A significant limitation to the duty, however, is that Indigenous peoples do not have a veto over Crown proposals—indeed, the Crown opinion that a project is beneficial for the overarching public good is enough for it to supersede Aboriginal rights. Additionally, without adequate guidance for municipal planners, the duty to consult creates an atmosphere of urgency in which planners send notifications for all manner of activities, not just those impacting

¹⁷ Brian Slattery explores in detail three possible sources for the notion of the *honour of the Crown*.

¹⁸ For a comprehensive explanation, see Dwight Newman's *Duty to Consult*.

Aboriginal rights, to neighbouring Indigenous communities, creating mountains of paperwork for understaffed and underfunded First Nations and Métis consultation offices (sometimes made up of a single person who may even be serving multiple other positions). Consultation staff, Chiefs, and Councils are repeatedly pointing out that they do not have the time or capacity to review this volume of notifications in order to address the requests within a timely manner (which is sometimes legislated), thus enabling municipalities to check off the requirement of notification without meaningfully fulfilling the task.

ARE MUNICIPALITIES RESPONSIBLE FOR THE DUTY?

An issue of particular ambiguity is *whether or not* municipalities have a duty to consult and accommodate. This duty is one held by the Crown—that is, the federal and provincial governments. While many municipalities already engage in consultation processes, some have been known to include a legal disclaimer at the foot of their consultation documents indicating that the municipality does not legally owe a duty to consult but that it is doing this proactively.¹⁹ Many First Nation Chiefs and Councils and consultation staff will insist that municipalities *do* owe a duty to consult, as they are making significant decisions (economic, cultural, environmental, etc.) that hold potential to impact Aboriginal and treaty rights—and there is increasing weight to this argument.

Hoehn and Stevens (forthcoming) argue that in fact municipalities *do* owe a duty to consult and accommodate. They make the case by: (1) illustrating the ways in which municipalities are *already* engaged in this process (thus demonstrating their adequate capability); (2) explaining how municipalities have

evolved beyond their initial creaturely status into one of greater maturity and responsibility; (3) positing that municipalities in fact hold many powers delegated by the Crown, such that “any distinction between [their] actions and Crown action quickly falls away” (Clyde River, para 29, as cited in Hoehn & Stevens); and (4) illustrating that, given the local nature of municipal–Indigenous relations, as well as the capacity of municipalities to engage in consultation processes, they are appropriately situated to engage in consultation with Indigenous communities. Hoehn and Stevens conclude that “after asserting sovereignty over Indigenous peoples, the Crown delegated a broad spectrum of the powers flowing from that sovereignty to local governments. If the duty to consult does not accompany the transfer of these sovereign powers, then it will not be able to play its essential role of protecting Aboriginal rights and promoting reconciliation”(p.40).

This view, however, is far from universal. To say nothing of the various perspectives questioning the validity of Crown sovereignty²⁰, Hoehn and Stevens’ paper responds to various critiques and defenses of the municipal role in the duty to consult and accommodate, including very significantly, the critique that if municipalities were to hold this Crown duty, that would critically water down the nature of the nation-to-nation relationship between the Crown and First Nations (Ritchie, 2013). Though Hoehn and Stevens address this concern, nevertheless the fact that we as a nation continue to look to the courts to define how we establish and care for relationships demonstrates a watering down of both nation-to-nation relationships, as well as community-to-community and person-to-person relationships. In its Code of Professional Conduct, the Canadian Institute of Planners tells us that “Planners [ought to] practice in

¹⁹ In conversation with Carolyn King, former Chief, Mississaugas of New Credit First Nation, March 2018.

²⁰ See works by Taiake Alfred, Jeff Corntassel, Glenn Coulthard, Leroy Little Bear, Leanne Simpson, for example.

Additionally, without adequate guidance for municipal planners, the duty to consult creates an atmosphere of urgency in which planners send notifications for all manner of activities, not just those impacting Aboriginal rights, to neighbouring First Nations, creating mountains of paperwork for understaffed and underfunded First Nations consultation offices (sometimes made up of a single person who may even be serving multiple other positions).

a manner that respects the diversity, needs, values and aspirations of the public as well as acknowledge the inter-related nature of planning decisions and the consequences for natural and human environments” (Canadian Institute of Planners, 2018). Is a legalistic framework really the thing to lead us along the path in a good way?

HOW TO IMPLEMENT THE DUTY

While the duty to consult and accommodate is catching the attention of municipalities, the ambiguity of their role within that due means that its implementation is problematic. For instance, for many in the municipal context, the first question is the reactive “how do we avoid conflict?” For others, the question is “how do we build relationships with Indigenous communities nearby; which *are* those communities?” For others still, the question is “where do we even start?” On the other side of the equation, Chiefs and Councils, as well as consultation staff within First Nations and other Indigenous communities and organisations, are asking questions such as “how do we get municipalities to pay attention to our rights and incorporate those into their processes?”; “how do we understand the planning process so that we can insert ourselves?”; and “how can we shape the planning process so that

we no longer have to think about ‘inserting ourselves’ but instead see that our rights become an integral component of the way relationships between people and land are cared for across this land?”

Guidance is needed in order to translate the case law around the duty to consult and accommodate into the vernacular of the every-day planner. Furthermore, legislation is needed to articulate Aboriginal rights and interests into documents and language that will enable meaningful change. This need for guidance is being echoed by planners and consultation staff across the province of Ontario, as well as by leading academic and practitioner planners. Through the efforts that the province is making to meet with and gather feedback from those involved in Indigenous–municipal consultation, we can see that this clarion call has been heard. However, we cannot only look to the province to make the necessary changes. While many different kinds of actions are needed to address this particular issue, and, more broadly, to address how this nation endeavours to walk down a path of reconciliation, cities—big, medium, and small—must step up to the plate and take initiative. However, many well-intended (and not-so-well intended) efforts have lined the halls of this nation’s colonial history. How, then, might we look to doing things differently?

CONCLUSION - WHERE TO FROM HERE?

A common question among practicing and student planners focussing on land use planning and Aboriginal and treaty rights is: “This is all so frustrating—won’t you tell us what we can do?” A checklist is usually what they are after, and one can sympathize. However, what works for one situation will not necessarily work for another. One municipality might find it is within the territory for a First Nation with a well-developed consultation protocol, and the municipality must look to that protocol to know how to build a relationship; another municipality may be in the territory of several First Nations and Métis, and will have to engage with several kinds of protocols and acknowledge that there will be competing and entangled assertions of sovereignty to grapple with. About the only certain common checklist item is to reach out to the Nation or community in question and begin by asking if they have a consultation protocol, and then to embark on a dialogue around what your relationship could look like.

There is a push to speed up planning approval processes, yet everything we know and learn about the nature of Indigenous-municipal relationship building indicates that more time and care is needed to nurture these already-fragile relationships. In some ways, what is needed is counter-intuitive: less *doing*, more *thinking*. For their part, municipalities must dig into the question of reconciliation. It took us centuries to get us to where we are today, and the con-

cept of reconciliation surely doesn’t mean we will “fix” things in the next year or two. While there are immediate actions that municipalities can take (for example, setting up good relations between Mayors and Chiefs, and working with those communities in order to establish and support positions on both sides dedicated to maintaining and caring for those relations), there are also long-term actions needed. City staff—and indeed Canadians at large—ought to take time to delve into these questions by learning from the myriad established resources (in this paper, I have tried to share several such resources) and engaging in discussion with one another.

Just what *does* reconciliation mean?²¹ How did we arrive at this tension between Indigenous and non-Indigenous peoples?²² How do Indigenous and non-Indigenous values around land differ?²³ What does it mean to “unsettle” ourselves?²⁴ For a start, look out for events organized by Indigenous communities and nations, and go and listen. You may find a striking array of perspectives, which can be rather unsettling and unclear. The one thing that *is* certain is that this process of (un)learning will be unsettling and at times uncomfortable.

²¹ Start by looking to reports by the Royal Commission on Aboriginal Peoples, and the Truth and Reconciliation Commission.

²² For a general overview of different ways of knowing, and Indigenous perspectives on the history of colonisation, take some time to read, for example, Thomas King’s *An Inconvenient Indian*, Arthur Manuel’s *Unsettling Canada*, Robin Wall Kimmerer’s *Braiding Sweetgrass*.

²³ Dip your foot into Anishinaabeg legal concepts through the writing of Aaron Mills, in particular his blog post *In Lieu of Justice: Thoughts on Oppression, Identity & Earth*, and his article *The Lifeworlds of Law: Revitalising Indigenous Legal Orders Today* (McGill Law Journal).

²⁴ As well as Arthur Manuel, see the works of Leanne Betasamosake Simpson, and Chelsea Vowel/âpihtawikosisân.

The one thing that is certain is that this process of (un) learning will be unsettling and at times uncomfortable.

The path of reconciliation is indeed challenging. It involves practicing introspection, which can be painful; listening, which can be confounding and frustrating; attempting to do things right, which requires courage; and responding to critique with humility. These practices can be hard to come by, especially within a rampantly consumerist society that values craving²⁵ and increase over gratitude and sustainability. This holds true for municipalities as well. We cannot talk about the duty to consult and accommodate without talking about many other things. We cannot talk about relationships between municipalities and Indigenous communities without learning about and reflecting on the history of broken promises of friendship and peace. We cannot talk about land use and land management without talking about what land *means* to us as a society and to listen to others about what land means to them. We cannot plan for a future in which we seek to avoid repeating the “sins” of our parents if we do not do these things.

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Source: The Ogimaa Mikana Project

²⁵ For example, Loblaws' *Crave More* campaign, which turns what was once deemed a “sin” into a virtue. See also Ursula Franklin's lecture “When the Seven Deadly Sins Became the Seven Cardinal Virtues”

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IDENTIFYING BUILT BARRIERS

WHERE DO OUR MOST VULNERABLE
OLDER ADULTS LIVE IN ONTARIO'S
MID-SIZED CITIES?

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INTRODUCTION

Rapid population aging and mass migration to cities are the greatest demographic shifts of our time. In Canada, older adults outnumbered children for the first time in 2015 (Statistics Canada, 2015), and population projections indicate that all municipalities over 10,000 people in Ontario will see an increase in their older adult populations (Hartt & Biglieri, 2017). Overwhelmingly, older adults in this country have expressed a desire to age-in-place, but this begs the question: how well do the places we live support the health and wellbeing of older adults? To begin to answer this question, this research seeks to understand the “double risk” that many older adults live with: the potential of being disadvantaged by social determinants of health and being further disadvantaged by living in a non-supportive neighbourhood. This paper seeks to understand where older adults in mid-sized cities (MSCs) with more vulnerability risk factors (poverty, living alone, aged 85+, etc.) are living, and if those neighbourhoods can be classified as unsupportive or supportive built environments. Research on the impact of the built environment for older adults tends to focus on major cities like Toronto and Montreal, rather than MSCs. MSCs tend to be treated as single entities, as opposed to having diverse neighbourhood types, which impact health and wellbeing in diverse ways. We know that MSCs are not homogenous, and neither should be their policy responses—which is why this research examines vulnerability risk factors through a neighbourhood-by-neighbourhood lens. Overall, we found that an extremely large proportion

of vulnerable older adults are living in unsupportive built environments in MSCs. This means a substantial portion of our potentially most vulnerable older adults are also being limited by, and facing significant barriers in, their physical surroundings. This “double risk” must be identified, measured, and taken into consideration to ensure the health and wellbeing of older Canadians.

AGING AND THE BUILT ENVIRONMENT

The importance of the built environment and place in the health and wellbeing of older adults has been recognized through the decade-old World Health Organization policy on Age-Friendly Cities (AFCs). AFC policies have been endorsed by federal and provincial levels of government in Canada to encourage municipalities to plan for their aging populations by conducting extensive public consultation and assessing eight domains of age-friendliness (the eight domains are: outdoor spaces and public buildings; transportation; housing; social participation; respect and social inclusion; civic participation and employment; communication and information; and community supports and health services) (Ontario Seniors Secretariat, 2013). See figure one. However, criticism of the policy remains, primarily because it tends to be applied in a uniform way that lacks important context-specific detail (Buffel, Philipson, & Scharf, 2012; Scheidt & Windley, 2006). Research

Research on population projections and AFC policy uptake in Ontario shows that cities with the greatest projected demographic share of older adults are the least likely to have started age-friendly planning

on population projections and AFC policy uptake in Ontario shows that cities with the greatest projected demographic share of older adults are the least likely to have started age-friendly planning (Hartt & Biglieri, 2017). Fortunately, 89% of MSCs have started AFC planning, however the quality and status of those plans are unknown (Hartt & Biglieri, 2017).

Figure 1: The eight domains of age-friendliness







Older adults are more likely than other age groups to spend more time in their immediate neighbourhoods (Glass & Balfour, 2008; Kerr, Rosenberg & Frank, 2012). Research on activity/ life spaces indicates that as we age, so too do our life spaces—they effectively shrink, making it important to understand the impact of one’s immediate built environment on the wellbeing of the individual (Rosso, Auchincloss & Michael, 2011). The Chief Public Health Officer of Canada (2017) recently released a report highlighting the need to focus more research on the built environment’s impacts on health—specifically, the importance of encouraging physical activity, promoting healthy food options, and supporting mental wellness, especially for vulnerable populations like older adults. While there is still much to be learned on how the places we live impact our health, research shows that walkable, mixed-use neighbourhoods with good public transport and easy access to services/family/friends tend to produce higher levels of physical activity in older adults (Kerr, Rosenberg & Frank, 2012) as well as higher levels of social interaction and social capital (Leyden, 2003; Chief Public Health Officer of Canada, 2017). In addition, the Improving Health By Design Report done by the Chief Medical Officers of Health in the Greater Toronto and Hamilton Area called on public health policymakers and planners to encourage the creation of walkable mixed-use neighbourhoods as a way to combat chronic disease and encourage active transportation (2014). The concept of a supportive, walkable, and widely accessible neighbourhoods is particularly salient when considering the transportation options for older adults who have lost their driver’s licenses and live in places with poor public transit and faraway amenities. With this concept in mind, the following research defines a supportive built environment as a neighbourhood with an assessed neighbourhood typology of an “active core” as defined and identified by Gordon & Janzen’s (2013) classification system.

CATEGORIZING SUPPORTIVE VS. UNSUPPORTIVE BUILT ENVIRONMENTS IN CANADA

Classifying neighbourhood types allows practitioners and researchers to (1) better understand macro-level impacts of planning policies and make recommendations about future policy updates, and upgrades in infrastructure investments (e.g. community centres, public transit improvements, sidewalk upgrades, etc.). And (2) understand the interactions between the social determinants of health and the built environment to develop more responsive policies for all municipal departments. For example, this exercise could identify if there are particular types of services/policies that might be needed for certain neighbourhoods based on the interaction between area demographics and built environment type and be combined with other data sources (like extensive public consultation) in order to make better municipal policies.

The question becomes – how do we classify built environments in Canada? After dozens of empirical experiments, Gordon & Janzen (2013) found that the most effective and precise way to define the Canadian urban and suburban landscape was through transportation behaviour models. Their extensive study, which took over five years and examined every neighbourhood in all 33 census metropolitan areas (CMAs), resulted in a four-part typology. Generally¹, the four types can be defined as:

Table 1: The four types of neighbourhoods

			
EXURBS	AUTO SUBURBS	TRANSIT SUBURBS	ACTIVE CORES
very low-density rural areas	neighbourhoods where almost all travel is done by automobile; there is negligible transit, walking or cycling	neighbourhoods where a higher proportion of people travel by transit	neighbourhoods where a higher proportion of people use active transportation (walk or cycle)
unsupportive ✘	unsupportive ✘	unsupportive ✘	supportive ✔

¹ See Gordon & Shirokoff (2014, p. 10) for technical definitions.

In this paper, we use Gordon et al.'s (2013, 2014) neighbourhood analysis of Ontario MSCs as operational variables of levels of built environment support. We consider active core neighbourhoods to be supportive built environments, while transit suburbs, auto suburbs, and exurbs are considered unsupportive built environments: trips are more likely to be accomplished on foot within active cores, whereas the other typologies are automobile dependant. As demonstrated previously, research on older adults have indicated that walkable neighbourhoods (which are identified as 'active cores' by Gordon & Janzen, 2013) are more likely than suburban neighbourhoods to be supportive by encouraging active transportation, social interaction, and facilitating mobility. In addition, this model allows us to identify supportive neighbourhoods that are not necessarily in the centre of the city—often as a result of policies like Transit-Oriented Development (Gordon & Janzen, 2013, p. 214).

CAPTURING THE VULNERABILITY OF OLDER ADULTS

The overarching goal of our research is to better understand the "double risk" of aging for many older Canadians. So far, we have discussed the importance of the built environment for aging individuals, but what about the vulnerability of the individuals themselves? Before outlining how we measured vulnerability, it is important to unpack the term itself. "The concept of vulnerability differs from other social science concepts that describe 'negative states', such as poverty, neglect and exclusion, in its potentiality and therefore the avoidability of its undesirable outcomes," (Schröder-Butterfil & Marianti, 2006, p. 14).

We use this term because it underscores that while this research identifies where the most vulnerable may live, there is a strong opportunity to change their outcomes through interventions in the built environment and through policy in programs/services (for example, through the AFC framework). Our operational definition of vulnerability for this work is based on three demographic factors:

1. **being over 85**
(which is associated with greater risk for issues with mobility/illness and is a good indication of activity space size [Hodge, 2008])
2. **living in poverty**
(which is a risk factor for mortality)
3. **living alone**
(which has been associated with social isolation and therefore decreased physical and mental health [Cornwell & Waite, 2009]).

Social scientists have cautioned that the studying of vulnerability is quite complex, and should be understood as a confluence of a whole history of life experiences and coping mechanisms requiring detailed qualitative review (Schröder-Butterfil & Marianti, 2006, p.14). However, from a public policy perspective, Klinenberg's (2002) social autopsy of the heat wave disaster in Chicago in 1995 (in which an estimated 739 people died from heat-related causes, the majority of whom were elderly, poor residents) tells us that studying proxy measures of vulnerability are vital to avoid risking the undercounting of vulnerable older adults. Klinenberg (2002) notes that the surveying of vulnerable older adults is a nearly impossible task, as those who come out to public meetings and participate in research are likely to be older adults who are considered quite active in the community. The concept of staying in one's own home has been glorified in society, and many older adults fear losing their independence. As a result,

those struggling with issues living at home may be less likely to ask for help or become politically involved. This research is not arguing that an 86-year-old individual living alone and below the poverty line is not capable of staying in her house. Rather, that we as policy makers need to be aware of where people live so that services can be targeted and retrofits to unsupportive neighbourhoods can be prioritized.

METHODOLOGY

Our study examined every neighbourhood in 14 of Ontario's Mid-Sized Cities (as defined by their CMA): Ottawa, Hamilton, London, Kitchener-Cambridge-Waterloo, St. Catharines-Niagara, Oshawa, Windsor, Barrie, Greater Sudbury, Kingston, Guelph, Brantford, Thunder Bay, and Peterborough. Following Gordon & Janzen (2013), all data was collected at the census tract level from Statistics Canada as a proxy for

neighbourhoods. In total, we examined 2,267 census tracts (1,116 from MSCs and 1,151 from Toronto). Data for the built environment type (supportive or unsupportive) was compiled from Gordon & Shirokoff (2014). All other variables were collected from the 2016 Census.

Overall, we found that an extremely large proportion of vulnerable older adults are living in unsupportive built environments in MSCs. Table 1 shows the absolute number of vulnerable residents living in all 14 MSCs examined. In total, we found that there were over 160,000 adults 65 years of age or older living alone (81%) and over 60,000 (77%) living in low income were living in unsupportive built environments. For older adults 85 years of age and above, a more likely to be vulnerable group, the results were similar. Over 30,000 (84%) were living alone in unsupportive built environments and over 8,000 (75%) were living with low incomes in unsupportive built environments.



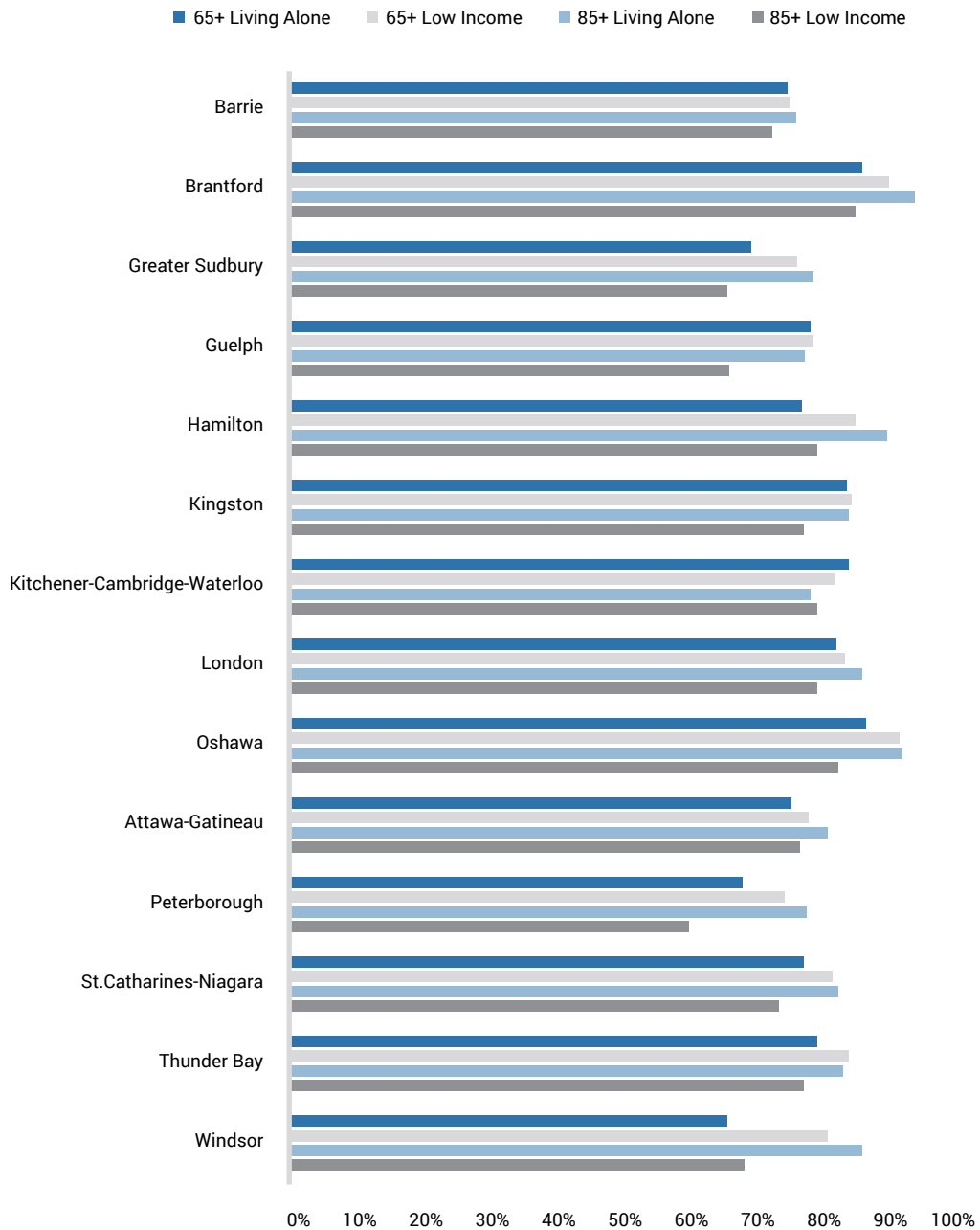
Table 2: Number of vulnerable MSC and Toronto older adults in unsupportive built environments

	# OF ONTARIO MSC RESIDENTS		# OF TORONTO RESIDENTS	
	SUPPORTIVE BUILT ENVIRONMENT	UNSUPPORTIVE BUILT ENVIRONMENT	SUPPORTIVE BUILT ENVIRONMENT	UNSUPPORTIVE BUILT ENVIRONMENT
65+ Living Alone	36,715	161,380	27,640	142,130
65+ Low Income	18,035	60,885	15,205	96,945
85+ Living Alone	5,870	30,105	4,035	26,930
85+ Low Income	2,744	8,372	2,043	13,305

Table 2 also shows the results for Toronto's neighbourhoods for comparison. In Toronto, a city with considerably more active core neighbourhoods, the proportion of vulnerable older adults in unsupportive built environments was actually slightly higher. Unsupportive built environments were found to be home to over 140,000 (84%) adults 65+ living alone, almost 100,000 (86%) adults 65+ living in low income, over 25,000 (87%) adults 85+ living alone, and almost 15,000 (87%) adults 85+ living in low income. Although we cannot say for certain how many older individuals are both living alone and in low income in supportive built environments due to the structure of the census data, the extremely high proportions do suggest that many do fall into this "double risk" category. Furthermore, the comparison to Toronto shows that the potential risks of vulnerable older adults living in unsupportive environments is not strictly a large or mid-sized city phenomenon, it is a considerable issue across the Canadian urban landscape.

Figure 2 (see next page) shows the percentage of vulnerable older adults living in unsupportive built environments in each of the fourteen MSCs examined in the study. Every single MSC had above 60% of their vulnerable older adults in every category living in unsupportive built environments. In most cities, the proportions of vulnerable adults in unsupportive built environments was close to 80%. Brantford was found to, generally, have the highest proportions, with 84% of low-income adults 85+ (highest), 93% of 85+ adults living alone (highest), 89% of 65+ low-income adults (second highest after Oshawa with 91%), and 85% of 65+ adults living alone (second highest after Oshawa with 86%) in unsupportive built environments. At the other end of the spectrum, Peterborough generally had the lowest percentages of vulnerable older adults living in unsupportive built environments.

Figure 2: Percentage of vulnerable older adults living in unsupportive urban environments



Source: Figure was created by authors – statistics Canada census referenced for background

This research found that overall, at least 60% of vulnerable older adults in MSCs are living in unsupportive built environments, with some municipalities ranging from 80-90%.

We want to highlight how the design of these automobile-dependent neighbourhoods can make older adults more vulnerable; and when combined with other social determinants of health risk factors, the majority of older adults in MSCs are left facing a “double risk”.

DISCUSSION

The built environment domains of the AFC model (transportation, outdoor spaces and buildings, housing) are often cited as the easiest to evaluate, with domains like social inclusion being more complex. However, the built environment domains are often the hardest to change, as they require significant investment, and change tends to happen over longer periods of time. That being said, the difference between living in a supportive versus unsupportive built environment can be mitigated by the targeted delivery of services (Warner, Homsy & Morken, 2017) or through small improvements to the built environment (like improved public transit, more benches, safer traffic crossings, etc.), and the findings from this research could be used in decision-making for municipalities and to help decide where to direct services for older adults.

Finally, just because someone lives in an active core, does not mean that he or she is not socially isolated. Being able to know who is vulnerable is a difficult task, even with dedicated researchers. Using census counts as proxy numbers can be a valuable (albeit conservative) data source for monitoring and planning for vulnerable, older populations. Our study identified vulnerable older adults living in unsupportive built environments, individuals facing a “double risk”, and provides important insight to help guide policy interventions.

STUDY LIMITATIONS

In terms of study limitations, this research does not take into account self-selection of home location nor whether or not an individual has moved to be in that location. The research also is limited in understanding what type of housing an individual is living in. For example, someone living in a two-storey home who is unable to climb stairs may find their home inaccessible, while another person lives in an accessible apartment in the same neighbourhood. In addition, this study is not a longitudinal or cross-sectional study on the effect of the built environment on an individual's aging trajectory. Research on the long term impacts of exposure to certain built environments still needs to be completed. Finally, this research was a bird's eye view of the types of neighbourhoods the potentially most vulnerable older adults live in MSCs, and subsequent policy work should try to understand qualitative experiences of aging in un/supportive built environments in the respective municipalities.

RECOMMENDATIONS

“Canada is a suburban nation” (Gordon & Janzen, 2013, p.197), As such, perhaps the findings from this research on Ontario's MSCs are not surprising. However, we want to highlight how the design of these automobile-dependant neighbourhoods can make older adults more vulnerable; and when combined with other social determinants of health risk factors,



How can we build Age-Friendly Cities if we do not know where our most vulnerable residents live?

the majority of older adults in MSCs are left facing a “double risk.” Consider the life-altering impact of losing your driver’s license while living in an automobile-dependant neighbourhood—your life space shrinks, and likely so too does your independence. But, if you lived in a walkable neighbourhood, perhaps losing your license would have less of an impact because you are able to walk or transit to your desired destinations. However, there is a reason we used the term vulnerability in this paper: because of “its potentiality and therefore the avoidability of its undesirable outcomes” (Schröder-Butterfil & Mariani, 2006, p.14). In identifying these populations and areas as potentially more vulnerable than others, we have also opened the door for targeted policy intervention and, therefore, the reduction of vulnerability.

Considering the heterogeneity of neighbourhoods in MSCs, targeted policy intervention is crucial. How can we build Age-Friendly Cities if we do not know where our most vulnerable residents live? This research found that overall, at least 60% of vulnerable older adults in MSCs are living in unsupportive built

environments, with some municipalities ranging from 80-90%. This means a substantial portion of our potentially most vulnerable older adults are also living in an unsupportive built environment—a “double risk” in terms of health and wellbeing. These findings can offer policymakers some insights in understanding where those who may not attend public consultation meetings live in order to target further research and/or consultation as well as municipal services and programming. This research can also help municipalities target unsupportive built environments as neighbourhoods for retrofitting; update planning policies in these areas to encourage the development of neighbourhood commercial nodes, with more medium density homes (like stacked townhouses, walk-ups, mid-rise buildings); and expand public transportation networks. One way to improve the impact of AFC policies is by helping policymakers assess where the most vulnerable older adults live in their municipalities. This research is but part of a necessary toolkit to begin addressing context-specific issues and improving the lives of our most vulnerable older adults.

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CONNECTING MEMORIES WITH NATURE

OPPORTUNITIES FOR RESIDENTS
OF LONG-TERM CARE FACILITIES
IN MID-SIZED CITIES

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INTRODUCTION: DEALING WITH AN AGING POPULATION IN MID-SIZED CITIES

Canada, like other Western countries, is facing the challenge of providing care for an increasingly large elderly population. Indeed data suggest that the Canadian elderly population will double by 2036 (Statistics Canada 2006). In Ontario, this means that the population of people over 65 years old may increase from 1.8 million in 2009 (i.e., 13.7% of the population) to 4.2 million or 23.4% by 2036 (Ontario 2009). Society encourages elderly people to stay in their homes for as long as they can, but this often becomes impossible unless constant personal care can be provided by a parent or personal caretaker. The current economic and time constraints facing children of

elderly people make it difficult for them to be able to consider full-time care of an elderly parent. In most cases, and especially for individuals suffering from dementia, placement in a long-term care (LTC) facility is often the only solution. While residents in some of these facilities may have gradual levels of independencies, in many of them residents have limited mobility. Residents in LTC facilities have a decreased sense of well-being compared to their counterparts living in other types of housing, such as their own homes or retirement facilities (Cummings 2002).



de Boer et al. (2017) state that “[r]esidents in traditional nursing homes spend a substantial part of their days doing little or nothing while remaining in a lying or sitting position, without social interaction, and they are rarely engaged in meaningful activities” (p. 41). This leads to additional mental and physical health problems that could have been avoided if these residents had greater levels of stimuli in their daily lives. One stimulus found to be highly beneficial is nature. As Rodiek et al. (2016) argue, “outdoor space can provide important health-related benefits for older adults, especially in long-term care settings where residents seldom leave the facility” (p. 222). Connecting with nature can thus result in an overall greater sense of well-being, which has been linked to better health and longevity (Edmans 2012).

Unfortunately, LTC facilities are generally not designed for the purpose of connecting elderly people to nature. In large cities, limited space means that many facilities are built with very little consideration for green spaces. As land is at a premium, intensification is a priority and facilities are built mainly to accommodate as many residents as possible over a small surface area. There are advantages to people living in these facilities—they are closer to medical centres and hospitals, for instance. In small rural communities, the challenge is exactly the opposite. While land is available, health services may be far and inaccessible for elderly patients who require rapid interventions.

MSCs are uniquely positioned to be the sites of LTC facilities: they usually have an array of health services [and] they are often close to larger centres where more specialized services are offered.

Mid-sized cities (MSCs) are uniquely positioned to be the sites of LTC facilities: they usually have an array of health services; they are often close to larger centres where more specialized services are offered; and they have a larger potential pool of elderly people who will require LTC facilities. Indeed, as most of the communities may have more flexibility in their municipal plans, due to their generally having less development pressure than larger centres, they can afford to design more nature-friendly and attractive LTC facilities that would have greater health benefits for residents. In this paper, we discuss the advantages and opportunities for MSCs to develop a positive and attractive system of long-term care facilities that can enhance quality of life for residents and elicit the longer-term benefits that such planning can bring to these cities. We also provide a case study on the Woodlands of Sunset Long-Term Care Facility in Welland and how having this connection with nature can help boost the morale of residents.

ACHIEVING QUALITY OF LIFE FOR ALL

Previous studies have shown that residents living in places where they have the potential for connection to nature tend to be more active and engaged than those living in conventional residences (de Boer et al. 2017). It has been suggested that physical activities and social interactions help residents maintain their mental, intellectual and physical capacities to a higher level than in inactive conditions. This has direct impacts on their quality of life, as well (Wood et al. 2009). Dijkstra et al. (2006) report that having access to nature or the outdoors—and, if possible, even spending some time outside—is important for residents in long-term care facilities. Such conditions have been found to help reduce stress and improve emotional and mental conditions.

Connecting new establishments such as long-term care facilities with access to nature is generally more easily accomplished in MSCs than in larger cities. There are several tools that can help support communities to design long-term care facilities that are more appropriate for elderly residents. Rodiek et al. (2016) underline the importance of evaluating outdoor environments as an integral component of the residential environment of long-term care facilities, and they describe several of these tools—in particular, the Seniors' Outdoor Survey – to assess preferences and potential uses of the outdoors by residents. Under their Smart Growth Program for small and mid-sized cities, the EPA (2016) emphasizes the importance of maintaining and promoting green spaces for all ages, including elderly people. However, while younger people are more mobile, and can travel to have access to green spaces, proximity is a much more important consideration for the elderly and, therefore, for the establishment of new long-term care facilities. In the United States, seniors tend to retire in mid-sized cities and then gradually move into neighbourhood long-term care facilities due to quality of life considerations. Other considerations that have been suggested as important in MSCs are issues of community affordability and safety, two aspects that can also increase the attraction of elderly people to move to such areas. Therefore, the design and planning of mid-sized cities smart cities should take into consideration these opportunities to retain and grow their populations.

PLANNING IN MSCS FOR AN AGING POPULATION: A WINDOW OF OPPORTUNITY

MSCs that aim to retain their current population and attract new residents should give thoughtful consideration to their land use planning policies. In the case of long-term care facilities, and given the arguments made earlier in this paper, this might include ensuring that the municipality's official plan and zoning bylaws have strategically designated locations for “institutional” lands (typically the land use category under which long-term care facilities fall) adjacent to those classified under open space, natural heritage, or other natural environment-related categories. The site planning process, during which the specific layout of buildings on the property and other on-site development-related decisions are made, should also involve a focused effort to maximize residents' views of the outdoors, particularly in the direction of the most significant natural features. In other words, priority should be given to minimizing the number of rooms and common areas that face parking lots and busy roadways, while instead maximizing the number facing more natural and aesthetically-pleasant settings (Wolf and Housley, 2016). At the same time, the site design may incorporate features such as walking paths, benches, and other accessible infrastructure that would facilitate the *outdoor* enjoyment of the property. Paths should be wheelchair accessible to give opportunities to all residents of the facility.

Priority should be given to minimizing the number of rooms and common areas that face parking lots and busy roadways, while instead maximizing the number facing more natural and aesthetically-pleasant settings.



Figure 1: Woodlands of Sunset and Surrounding Natural Environment.

Source: Google Maps, 2018.

Woodlands of Sunset is a long-term care facility managed by the Region of Niagara (see Figure 1). The facility is ideally situated on a property that includes a provincially-significant wetland, and is part of the Draper's Creek sub-watershed within the Welland River—a major tributary to the Niagara River. It is a system of two interconnected wetlands covering about 8% of the total 41,000 m² area of the property, which is surrounded by forested areas.

The location of the Woodlands of Sunset enables residents, staff and visitors to view a natural setting when looking out windows to the north, west, and south. Since 2015, the Family Council and the staff of this LTC facility have been collaborating with Brock University to enhance the sustainability of the property's features through community actions and research, with the end goal of improving quality of life for the residents and the neighbourhood. Conserving and enhancing the ecology of the property is essential to the integrity of the watershed and provides a rich opportunity to enhance the lives of the residents, many of whom have limited mobility. The built-up portion of the property is classified in the City of Welland's *Official Plan* as "Institutional" while the surrounding

landscape is categorized as part of the City's "Core Natural Heritage System" (City of Welland, 2017).

Views of these natural settings have been shown to increase well-being in seniors (Kearney and Winterbottom, 2006). In the case of Woodlands of Sunset, with the help of Brock University, bird watching was introduced to the residents as a means of increasing their connection to nature. Indeed, such activity encourages residents to look out windows and view nature irrespective of any physical or cognitive impairment they may have. To explore the effect bird feeders had upon resident's well-being, two bird feeders were placed outside two large viewing windows. Within weeks the bird feeders became a focal point for many residents, some watching the birds several times a day. Seeing the birds brought up childhood memories and made them feel happy. Many found it relaxing to watch the birds and found that it brought up childhood memories or gave them a sense of hope.

Bird watching is an activity residents can do year-round with family members, visitors, and other residents. Most noticeable is the impact upon residents with dementia and Alzheimer's; focusing on the birds

can distract and calm them, de-escalating periods of agitation. The feeders have also attracted small animals, such as squirrels, that many residents are delighted to see. These animals moved more slowly and were easier for many residents to observe. Staff also enjoy watching the birds, finding it a relaxing and calming activity. Also, the feeders have acted as a destination point during therapy sessions where residents can rest and focus on the outside world.

Placing bird feeders in a visually accessible space is a simple action that had only positive impacts for the nursing home residents, their families, and staff. The cost of the feeders is usually under \$100, with bird seed being the only ongoing cost. Many more activities of this nature can enhance cognition in residents and help maintain their physical and mental health. Similarly, Detweiler and Warf (2005) suggest that gardens and horticultural therapy have been shown to reduce stress in dementia patients. Such activities again demonstrate the importance of facilitating access to nature through strategic planning and design. As shown here, MSCs have this potential advantage, making them attractive in the long term for all spheres of the population.

Figure 2: Bird feeder from a viewing window at Woodlands of Sunset in Welland.



Credit: Samantha Morris



CONCLUSION

MSCs may have one of the best opportunities to attract a more stable population by attracting a more senior population if aspects such as community affordability, safety, presence of amenities and health care can be adequately planned. This has to include the presence of vibrant LTC care facilities that can maintain their linkages with an active life and nature. It has been argued that the concept of cradle-to-grave planning and development may be an effective way for MSCs to continue attracting a population that want to remain there for quality of life reasons, which would automatically include facilities that are connected to a natural environment that is also safe and accessible. We demonstrate that when LTC facilities are well planned, they can become a hub for more than just elderly people.

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ANCHORS & DIVERSITY

UNDERSTANDING DECLINE
AND RESILIENCE IN CANADIAN
MID-SIZED CITIES

Austin Zwick, University of Toronto,
Nick Revington, University of Waterloo
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INTRODUCTION

There is no shortage of writing on the cycles of death and rebirth in global cities (Sassen, 2001), from deindustrialization (Grogan and Proscio, 2000) to the emergence of economic superclusters (Glaeser, 2011). Yet often overlooked in this literature is the question of whether mid-sized cities—with smaller population bases and often less diverse economies—are following comparable economic cycles. Considering that currently over a third of Canadians live in mid-sized cities¹ and that all major metropolitan areas² are becoming increasingly unaffordable, policymakers now view mid-sized cities as the key to Canada's future growth (Keesmaat, 2018). Although the potential for mid-sized cities to play a key role in Canada's future growth exists, most mid-sized cities must first overcome global economic forces that have led to the growth of megacities at the expense of their smaller counterparts. As a result, investigating how Canadian mid-sized cities are overcoming the decline caused by this global economic realignment is of fundamental importance. In this paper, we hone in on these issues by asking: what role do economic resilience and anchor institutions play in stabilizing population loss and stimulating local economic development?

Descriptions of declining cities have taken on a variety of terminology, including “shrinking” (Hollander et al., 2009), “declining” (Beauregard, 1993), “legacy” (Mallach and Brachman, 2013), and others. Definitions introduced in the academic literature, including the definition recommended by the Shrinking Cities International Research Network, generally focus on two concurrent causes: population loss and

Considering that currently over a third of Canadians live in mid-sized cities and that all major metropolitan areas are becoming increasingly unaffordable, policymakers now view mid-sized cities as the key to Canada's future growth

economic decline (Wiechmann and Pallagst, 2012). Most of the shrinking cities scholarship has concentrated exclusively on simultaneous instances of population loss and economic decline (Bernt et al., 2012; Wiechmann, 2008; Wu et al., 2014). However, they are in fact distinct phenomena (Dewar and Thomas, 2012; Ryan, 2012) that do not always occur jointly.

The study of economic resilience, often described as how and why regions bounce back from adversity, has become increasingly popular among economic development scholars (Cowell, 2013; OECD, 2016). Definitions of “resilience” vary. Simmie and Martin (2010) discuss resilience in terms of a region's ability to resist a sudden economic shock, while Christopherson et al. (2010) refer to the “inevitable adaptation” required by city-regions over time to face new challenges. Other authors describe “adaptive resilience” or whether regions have the ability to structurally, functionally and organizationally “bounce-back” from an economic crisis (Dawley et al., 2010; Martin, 2012; Martin and Sunley, 2014).

¹ 36.7% using the Evergreen definition of 50,000 to 500,000 and 2011 Census data

² Vancouver, Montreal, and Toronto

In order to have a clearer understanding of different circumstances, which may require dissimilar policy remedies, this paper takes a number of steps to better understand the situation of Canadian mid-sized cities. First, we discuss implications of economic cycles on growth and decline as they apply to different Canadian cities. Second, we use data from the 2011 Census to develop a typology of terminology surrounding concepts of urban decline. Next, we elaborate on our typology by exploring the case study of Sudbury, Ontario. Finally, we conclude with brief policy recommendations and directions for future research.

IMPLICATIONS FOR GROWTH AND DECLINE

In the past three decades, the spatial scope of economic cycles has shifted from local to global (Berge, 2012; Kose et al., 2003). As a result, cycles of growth and decline are increasingly disconnected from local actions and decisions (Hartt and Warkentin, 2017). Seminal works by Friedmann (1986) and Sassen (2001) articulate the restructuring of urban areas in response to modern economic globalization. Their work initiated a paradigm shift in how urban scholarship understood globalization and its impact on the evolution of urban areas (McCann and Ward, 2013). The global cities literature argues that eco-

nomie globalization did not diminish the importance of place, location, and distance, but rather reinforced and heightened the importance of select cities in a global market, ultimately, widening the gap between the haves and the have-nots. Soja (2000) argues that governmental responses to these shifts have also grown less influential as the nation-state is no longer the political, economic, or cultural epicentre, with territories being (cognitively) redrawn and new forms of economic organizations and cultural identities emerging at the transnational level.

The global restructuring of production, distribution, and consumption in recent decades is considered characteristic of a shift towards a new global economic order which has resulted in the concentration of resources, key infrastructure, and intellectual assets in a small number of “global” cities (Castells, 2004; Martinez-Fernandez, Audirac, Fol, and Cunningham-Sabot, 2012; Soja, 2000). Financial and human capital are relocating away from small and mid-sized cities, leaving a myriad of social, economic, and environmental challenges in their wake (Audirac, Fol, and Martinez-Fernandez, 2010). These small and mid-sized cities have been dubbed a number of terms, such as “shrinking cities” and “legacy cities,” and recent academic literature has consistently concluded that this emergent phenomenon is a lasting symptom of globalization, not simply a step in an evolutionary cycle (Großmann, Bontje, Haase, and Mykhnenko,

These large, place-based institutions, such as universities and hospitals, employ hundreds or even thousands of people, contribute to the local economy, and often generate other community benefits and knowledge spillovers that can provide stability in the face of economic shocks.

2013; Hartt, 2017; Pallagst, 2010). Our view is that the ongoing challenges that mid-sized cities face in continuing to provide a high quality of life is in line with the concept of “adaptive resilience” as defined by Martin and Sunley (2014). In this paper, we will explore, conceptually and empirically, the notion of resilient mid-sized cities in the Canadian context.

In the past, cyclical models of innovation, expansion, propagation, and eventual decline may have explained local demographic and economic change. However, advances in economic, urban, and social theory have demonstrated that local cultures and economies are increasingly linked to global trends (Hartt, 2017). The presumption that stages of growth follow decline no longer holds at the local level. The trajectory of a city’s economy or population is increasingly impacted by the contemporary restructuring of production and consumption, and, as such, is increasingly difficult to generalize. Some cities are able to adapt and flourish, while others are confronted with difficult adjustments (Newman and Thornley, 2011; Hollander et al., 2018). Regardless of the success or failure of cities, it is clear that generalized cyclical models of growth and decline are no longer applicable to the majority of cities. Martinez-Fernandez et al. (2012) contend that, in the modern context, shrinking cities are arguably not simply at a temporary stage in a cyclical process, but, rather, reflect a more permanent spatial symptom of an emerging global progression.

The common rationale in the literature for this growth disparity is related to globalization and structural economic shifts (Schatz, 2010). Canadian cities in resource- and manufacturing-based regions have experienced significant job losses due to the growth of the service sector, the concentration of knowledge-based jobs in large metropolitan areas, and the decline of the resource and manufacturing sectors themselves (Bourne and Simmons, 2003; Hall and Hall, 2008; Hartt, 2018). Leadbeater explains that changing conditions at the community and macro-level have shifted the development prospects and created a new “crisis of hinterland development” (2009, p. 94). These changes have resulted in declining employment and an exodus of residents in search of economic well-being elsewhere (Shearmur and Polèse, 2007).

This crisis is characterized by: (1) an increase in productivity in resource industries; (2) massive increases in the concentration of both domestic and international capital; (3) major shifts in state policy resulting in cutbacks in employment and social programs; (4) environmental limits on production and consumption; and (5) increased political resistance regarding sovereignty and land claims from Aboriginal peoples.

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ROLE OF ANCHORS AND DIVERSIFICATION

According to Wolfe (2010), a key focus in the study of resilience should be on the ability of regions in the face of economic, technological, and environmental challenges to engage in collaborative processes to plan and implement change, within the constraints endowed by their existing regional assets (including public and private research infrastructure, and the

infra-structure of their regional institutions). We believe that this development of resilience can occur through two distinct strategies: anchoring and diversifying. In the following section, we summarize the literature on anchor institutions and diversification and their roles in making cities more resilient.



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ANCHORS

One overarching approach deemed by its proponents to help reinvigorate shrinking cities and retain residents concentrates on anchor institutions—large, immobile employers who act as stabilizers of local economies, such as universities and medical centres. Building upon the work of Birch (2009), Silverman et al. argue that in shrinking American cities, “anchor institutions have emerged as a critical component of inner-city revitalization strategies” (2014, p. 162). Post-industrial shrinking cities in particular have embraced “anchor institutions”-based economic development strategies as they attempt to mimic Pittsburgh’s much-celebrated *eds and meds*³ approach (Neumann, 2016).

The academic literature praises the innumerable benefits of universities in their ability to act as anchor institutions. Gertler and Vinodrai (2005) emphasize the positive effect universities have by attracting and retaining talented students and academic staff. Beyond acting as a talent aggregator, Munro et al. (2009) show that universities draw domestic and international students, who contribute to the local economy through spending and provide flexible part-time labour. Universities are significant purchasers of local goods and services that, magnified by multiplier effects, have considerable direct and indirect impacts on their wider local economy (Siegfried et al., 2007). “All this economic activity increases the linkages within the local economy” (Malizia and Feser, 1999, p. 183), acting as a regional magnet for consumer spending and investment from the hinterlands.

Further, universities create new knowledge and new work, diversifying local economies. Cohen et al. (2002) emphasize the importance of university–industry knowledge transfer. Cohen and Levinthal (1989) argue that universities increase a local economy’s “absorptive capacity”—the ability to capture increased knowledge spillovers and commercialize research. New industries often arise out of college towns, as universities and supporting organizations are “critical components of the cluster” and “crucial factors to the cluster’s competitiveness” (Austrian, 2000, p. 103). Feldman (2005, p. 219) writes that “anchor firms located in bounded knowledge rich environments are expected to realize higher rates of innovation, increased entrepreneurial activity, and increased productivity due to the localized nature of knowledge creation and deployment.” Some evidence suggests that anchor universities in smaller cities can even act as a substitute for the agglomeration effects offered by larger cities, effectively allowing them to punch above their economic weight (Drucker, 2016; Goldstein and Drucker, 2006; Goldstein and Renault, 2004).

Anchor institutions—and in particular universities—are undoubtedly significant actors in local and regional economic development. With the majority of Ontario’s public universities located in mid-sized cities (16 out of 22 primary campuses are located outside Toronto and Ottawa), they offer important potential for promoting urban resilience in their host communities. Universities are often among the largest individual employers in their urban regions (Birch, 2014), offering both high-skilled teaching, research, and administrative jobs as well as a host of low-skilled work (for example, in cleaning and foodservice). More importantly, a number of university outputs can favourably contribute to economic development (Goldstein et al., 1995; cited in Goldstein and Renault, 2004):

³ *Eds and meds* refers to economic strategies that concentrate on the development of the higher education and medicine industries

- > Knowledge creation;
- > Human capital creation;
- > Transfer of existing knowledge;
- > Technological innovation;
- > Capital investment;
- > Provision of regional leadership;
- > Production of knowledge infrastructure; and
- > Production of a favourable regional milieu.

Together, these outputs can lead to productivity gains, business innovation, new business start-ups, increased regional economic development capacity, regional creativity, and direct and indirect spending. Some private sector companies may fulfill some of these functions as well, but unlike private companies, universities are generally not footloose and do not relocate to other cities for competitive tax rates or generous municipal subsidies (Adams, 2003).

They also tend to be recession-proof as they are the local sites of considerable economic redistribution from higher levels of government—for example, in the form of subsidies for teaching and research—and therefore are not solely dependent on the local economy. While cumulative causation implies that the loss of a major industry can have profound negative implications for other local businesses in a city, this is typically not the case for universities. Instead, universities continue to receive government and private funding for teaching and research activities, with positive spillovers for the local economy. Moreover, universities have a built-in public service mandate that may make them more likely to contribute to other public initiatives than private companies (Adams, 2003). Anchor-based economic development strategies attempt to direct these advantages to benefit local communities—which, in turn, helps reverse economic decline.

DIVERSIFICATION

Both scholars (Cowell, 2013) and policy experts (OECD, 2016) have emphasized that more diverse regions are more resilient economies, whereas less diverse regions are more economically vulnerable. The more diverse a region's economy, the more resilient it is to external shocks because the region has a larger portfolio of industries with different elasticities of demand, different labour and capital necessities, different export orientations, and different levels of internal and external competition (Davies and Tonts, 2010; Martin and Sunley, 2014). The cyclical fluctuations of one industry can be offset by the cyclical fluctuations of another. This idea has roots in Jacobs' *Economy of Cities*

People have long observed that poor regions ... typically import more than they can afford or else are terribly deprived because they fail to produce wide ranges of things for themselves... goods for export – the work that pays for the imports – helps feed the import replacing process... the root of all economic expansion. (1969, pp. 35–42)



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Jacobs (1969) then goes on to describe how import-replacing in one field can create new work in other fields as firms look to expand their products to new markets; leading to a more diversified economy. There is widespread agreement that new work is necessary to replace old work, yet there remains "little understanding of how regions diversify into new growth paths, and to what extent public policy may affect this process" (Asheim et al. 2011, p. 894).

We see resilience not as a stationary condition, but rather as an ongoing dynamic that cities can increase through using economic development strategies. In this light, we view the tension in the academic literature between anchoring and diversifying as two differing strategies: cities can increase resilience either through (a) developing a network around their anchor institutions, which we call **anchored resilience**; or (b) developing the conditions to attract a diverse set of industries, which we call **diverse resilience**.

TYPOLOGY OF TERMINOLOGY IN CANADA

As the academic literature uses terminology in different ways, it becomes necessary to create a typology of terminology. Our definition may not perfectly align with all other sources, but it coincides with how the two major factors in the shrinking cities literature are discussed: population loss and economic decline (Wiechmann and Pallagst, 2012). We use “shrinking” to mean population loss and its antonym “growing” to mean population gain. We use “declining” to explicitly mean a decrease in real median income and “prospering” to mean an increase in real median income. Both of these numbers are calculated by the difference between 2011 and 1981 using Canadian Census data, with the latter being adjusted for inflation. Table 1 summarizes our typology.

Table 1: Typology of Terminology of the Economic Attributes of Cities

		MEDIAN HOUSEHOLD INCOME ^A	
		PROSPERING CITIES (INCREASING)	DECLINING CITIES (DECREASING)
POPULATION	GROWING CITIES (INCREASING)	Emergent Cities Oakville Gatineau Surrey	Diverse Cities Markham Windsor Niagara
	SHRINKING CITIES (DECREASING)	Anchored Cities^B Sudbury Jonquiere Chatham	Legacy Cities Thunder Bay Sault Ste. Marie Saint John

Data Source: 1981 Canadian Census and 2011 Canadian Census

A: Inflation Adjusted to 2011 dollars using Bank of Canada (2018) CPI Calculator

B: All of these cities would have decreased in population if not for municipal amalgamations in the late 1990s; all former cities experienced population loss even as the newly amalgamated cities gained population. Sudbury is now part of Greater Sudbury. Jonquiere is now part of Saguenay. Chatham is now part of Chatham-Kent.

Legacy Cities (Shrinking, Declining) have been experiencing decreases in both population and median income. We hypothesize that legacy cities have borne the brunt of global economic restructuring, experiencing the harshest deindustrialization, and have since become economically stagnant. Without government intervention, it is unlikely that these cities will find new pathways to generate new work, either through diversification or specialization.

Anchored cities (Shrinking, Prospering) have been experiencing population loss but are still able to provide an increasing median income. We hypothesize that anchor institutions, which have a vested interest in the communities they operate within, are reinvesting in maintaining a high quality of life for their employees and other residents and are resisting downward pressure on wages. These anchors provide an economic buffer to prevent further population loss.

Resilient cities (Growing, Declining) have been experiencing decreases in median income but have been able to attract new residents. We hypothesize that these cities have been able to attract (low-income) migrant populations through the formation of new work opportunities. These cities might not have higher-paying jobs found in anchored and emergent cities, but the diversification of industry provides a resilient foundation for the future.

Emergent cities (Growing, Prospering) have been able to both grow in population while providing an increasing median income. We hypothesize that these cities have benefited from global economic realignment, channeling either diversification or specialization strategies in order to offer a higher quality of life that in turn attracts (higher-income) migrants from the other three kinds of cities.

The goal of most cities is to become emergent, growing in both income and population. There are two different pathways—**diversification** or **specialization** in which “legacy cities” can overcome global economic restructuring to become “emergent cities,” thereby achieving a greater degree of resilience. To reflect the two pathways to emergence, we subdivide resilience strategies into **diverse resilience** (focus on job creation now and income increases will come later) and **anchored resilience** (focus on quality of life now and job and population growth will come later). Depending on the current assets and capacities of the region in which the city lies, one strategy or the other may be more practical.



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RESILIENCE AND ANCHOR INSTITUTIONS IN ACTION IN SUDBURY, ONTARIO

Sudbury, Ontario

Source: See References

Sudbury, Ontario has long experienced fluctuating boom–bust cycles typical of a resource-based economy and its population has never surpassed its peak (of about 170,000 residents in 1971); however, median income has continued to increase during this time frame.⁴ This occurred because, as direct employment in the mining sector declines and the industry becomes more capital-intensive, the city has been able to partially reinvent itself, largely due to the presence of anchor institutions. Sudbury is therefore an **anchored city** in our framework.

Sudbury supplemented its declining natural resource industry by **specializing** in health care and education. In addition to hosting a number of major health care

facilities, Sudbury is also the “educational capital” of northeastern Ontario (Hall, 2009, p. 7), home to Laurentian University, the Northern Ontario School of Medicine, Cambrian College, and Collège Boréal.

These institutions establish Sudbury as a regional service centre, but more importantly, they have contributed to resilience by playing to the region’s existing economic strengths. Laurentian University, Cambrian College, and Collège Boréal all offer programs in mining engineering and geology, with Laurentian holding more federal research funding in this field than any other comparable university program in Canada (Harquail School of Earth Sciences, 2017). NOSM in particular upholds the anchor mission of a broader public service mandate, engaging with local minority groups such as Aboriginal, Francophone, and remote communities (NOSM, n.d.). NOSM has also been involved in research to discover drugs derived from the boreal forest through partnerships with the region’s existing forestry expertise (Hall and Donald, 2011).

⁴ According to our dataset, Sudbury increased in population by 65,936 and experienced an \$8,065 per-household increase in real median income between 1981 and 2011. During this time period the city underwent an amalgamation that turned the old Regional Municipality of Sudbury into the City of Greater Sudbury, which accounts for the population increase. Using the old City of Sudbury borders, Sudbury decreased in population by 3,879 people.



Science Centre, Sudbury, Ontario

These anchors have also spawned several other local organizations promoting innovation. For example, the Northern Centre for Advanced Technology (NORCAT), a non-profit organization supporting entrepreneurship and innovation, spun out of Cambrian College in 1995 and provides a number of training and development programs for sectors including mining, oil/gas, and healthcare. NORCAT also operates a demonstration mine for training, product testing, and prototyping; it also incubates small businesses (NORCAT, 2018; Hall and Donald, 2011). Meanwhile, the Mining Innovation Rehabilitation and Applied Research Corporation (MIRARCO) was established in 1998 as a not-for-profit corporation of Laurentian University linking industry and academia to promote innovation in the mining

sector (MIRARCO Mining Innovation, 2018). Laurentian is also partnered with Sudbury's Centre for Excellence in Mining Innovation (CEMI), a non-profit organization dedicated to developing commercially viable "practices, procedures, tools, techniques and technologies to help generate a significant improvement in the performance of mines" (CEMI, 2018). In combination with existing, locally-held knowledge of the mining sector, these initiatives originating in the academic sector play a crucial role in supporting the local mining supply and services cluster (Hall and Donald, 2011).

RECOMMENDATIONS AND FUTURE RESEARCH

When it comes to the role of anchor institutions in economic development, it is important not to place too much emphasis on a small number of exceptional successes (Coenen, 2007). While they may hold lessons for other places, Pugh (2017) cautions that policy must nonetheless adapt to regional circumstances and cannot be overly prescriptive. A focus on mining innovation worked for Sudbury given its historical and geographical context. Such a focus would probably not be helpful for Niagara or Windsor; conversely, the Sudbury case would not likely have been as successful had it centred on a sector with little regional importance. Cities and anchor institutions should start by establishing shared priorities tailored to regional needs, as well as forums to keep these connections intact (Kleiman et al., 2015). These partnerships can start small, establish what works (or doesn't work), and build from there (Dragicevic, 2015).

Top-down approaches have focused on using “hard” policy instruments—such as the use of public subsidies and infrastructure investments—to relocate economic activity to declining regions (Halkier and Danson, 1997; Huggins and Izushi, 2007). However, more recent policy has turned away from that approach; rather, it focuses on creating environments that are conducive to the growth of specific industries (Huggins and Williams, 2009) and fostering entrepreneurship (Acs and Szerb, 2007). Some scholars (Mackinnon et al. 2009; Morgan 2012) suggest that policymakers' lack of capacity to intervene is responsible for regions failing to adapt to economic change. This problem is particularly acute at the local level, which may highlight a necessary role for the provincial and federal governments. Federal and provincial funding for education and research should retain a redistributive function lest those places that stand to benefit



Source: *Mysudbury.ca flickr account*

most from added resilience (shrinking, declining, and legacy cities, in our typology) are not further marginalized (Rosen and Razin, 2007; Goddard, Coombes, Kempton and Vallance, 2014).

This discussion paper is the launch point of this research project. Future research would further test our model by exploring how and why cities move between our defined typology over time. We will be coupling quantitative findings with interviews of local planning officials, specifically inquiring into what policy strategies and planning efforts different cities took to reach their goals and how successful these efforts were. We invite scholars and practitioners from Ontario's mid-sized cities to partner with us to further understand the causes and outcomes of their economic development plans with the goal of helping municipalities more effectively reach their economic development objectives.

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Burlington, Ontario

VISUALIZING DENSITY & THE DRIVERS OF COMPLETE COMMUNITIES

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Visualizing Density is a pilot project created by the Canadian Urban Institute (CUI) to help planners, designers, elected officials, residents' groups and private sector builders better understand density in the context of the growth in their own communities. The project used a case study approach to measure and visualize the density of existing communities and explore how the attributes of a complete community can work with density to make great places to live and work. This paper summarizes the methodology and key findings from Visualizing Density (www.visualizingdensity.ca).

CONTEXT

Sustained population growth over the next 15 years combined with provincial land use plans (e.g. Growth Plan for the Greater Golden Horseshoe, Oak Ridges Moraine Conservation Plan, Greenbelt Plan) means that 12 million people will move to the Greater Golden Horseshoe (GGH) and need to live and work in the same land area currently occupied by 9 million people. More people in the same space means we have to live at a greater density.

To accommodate this growth while making efficient use of existing infrastructure, preserving natural areas, and protecting drinking water and farmland, the province uses policy tools like the Growth Plan for the Greater Golden Horseshoe to require municipalities to plan for more compact, higher-density communities.

But, it's not just policy that drives the trend towards compact, higher-density communities. The building industry and the housing market in the GGH are

also changing in response to rising land costs, more diverse family types, and population growth. More townhouses, condo towers, and mid-rise apartments are being built, with a focus on people, amenities, and active transportation rather than the circulation and storage of cars. The impact of this shift in mid-sized cities is a visible change towards a denser built environment and a broader range of built form.

If municipalities are required by the province to achieve higher density, what does this mean for the look and feel of local neighbourhoods? Does higher density mean overcrowding and congestion? Or can density be delivered in a subtle, incremental way through buildings that "fit" with the existing community? Can greenfield developments be built in a way that will lead to opportunities to grow into vibrant, inclusive, diverse, walkable, life-long communities? These are the questions Visualizing Density set out to answer.

Does higher density mean overcrowding and congestion? Or can density be delivered in a subtle, incremental way through buildings that "fit" with the existing community?

WHY VISUALIZE DENSITY?

Density targets are a key performance measure.

The ratio of residents and jobs to a land area is how density is calculated in the Growth Plan for the Greater Golden Horseshoe. To measure and guide how municipalities and regions are planning to accommodate population growth, the province has created density targets of 80–400 residents and jobs per hectare to which municipalities and regions must comply in their official plans. These density targets impact the way that municipalities and developers plan and design new communities.

Density can be misunderstood. The average person doesn't know what 80 people and jobs per hectare look like, and what this means for their own community. Often people confuse density with building type and assume, for example, that detached houses are lower density than attached housing types, such as townhouses, duplexes, mid-rise and high-rise. While this is generally true, it is not always the case. A high-rise tower with large units set on a park-like site may be lower density than a set of detached houses on small lots.

Many people fear increased density in their community. Some people don't want change. Others have a genuine concern that higher density will impact their lifestyle or property value. Some people believe that local services and infrastructure will be overwhelmed by too many people—and that traffic and transit will get worse.

Education is key to changing mindsets about density. Visualizing what density looks like in existing communities has proved to be an effective way of educating people about growth and development. It helps demonstrate that there are a variety of ways to achieve higher densities, that higher density doesn't have to mean high-rise, and that density can actually help to create vibrant, walkable communities where people want to live and work.

METHODOLOGY

CASE STUDIES

Visualizing Density explores the concepts of density and complete communities through the lens of 5 neighbourhoods across the Greater Golden Horseshoe. Four of the neighbourhoods were located in mid-sized cities: Downtown Burlington, Uptown Core in Oakville, Barrel Yards in Waterloo and Cornell in Markham. To see a full analysis of the case studies visit: <https://www.visualizingdensity.ca/case-studies>

CALCULATING DENSITY

For each case study, density was measured at two different scales: neighbourhood level and block level. At the neighbourhood level, both the combined (people + jobs per hectare) and residential density (number of people per hectare) were calculated. The combined density calculation aligns with the Growth Plan's combined targets for greenfield areas, urban growth centres, and major transit station areas. It also reflects the need to have a mix of residential and commercial uses in a community.

To calculate the combined density of a neighbourhood, the number of people and the number of jobs were added together and then divided by the number of hectares in each area. The number of hectares was calculated using GIS software.

Population (e.g., number of residents) and employment data (e.g., number of jobs) are available in the Census at the Dissemination Area (DA) level (usually about the size of a neighbourhood). Census DAs were used to define the boundaries of each neighbourhood. Most of the time, the DAs did not line up exactly with the neighbourhood as it is defined by the municipality or the public, in which case the DA that most closely matched the boundaries of the community was used.

Publicly available employment data from the Census is based on a person's place of residence, not the location of where they work. 2011 employment data for "Place of Work for Small Areas" was purchased from Statistics Canada for a nominal cost. This data provided an estimate of the number of people 15 years of age or older who work in each Dissemination Area.

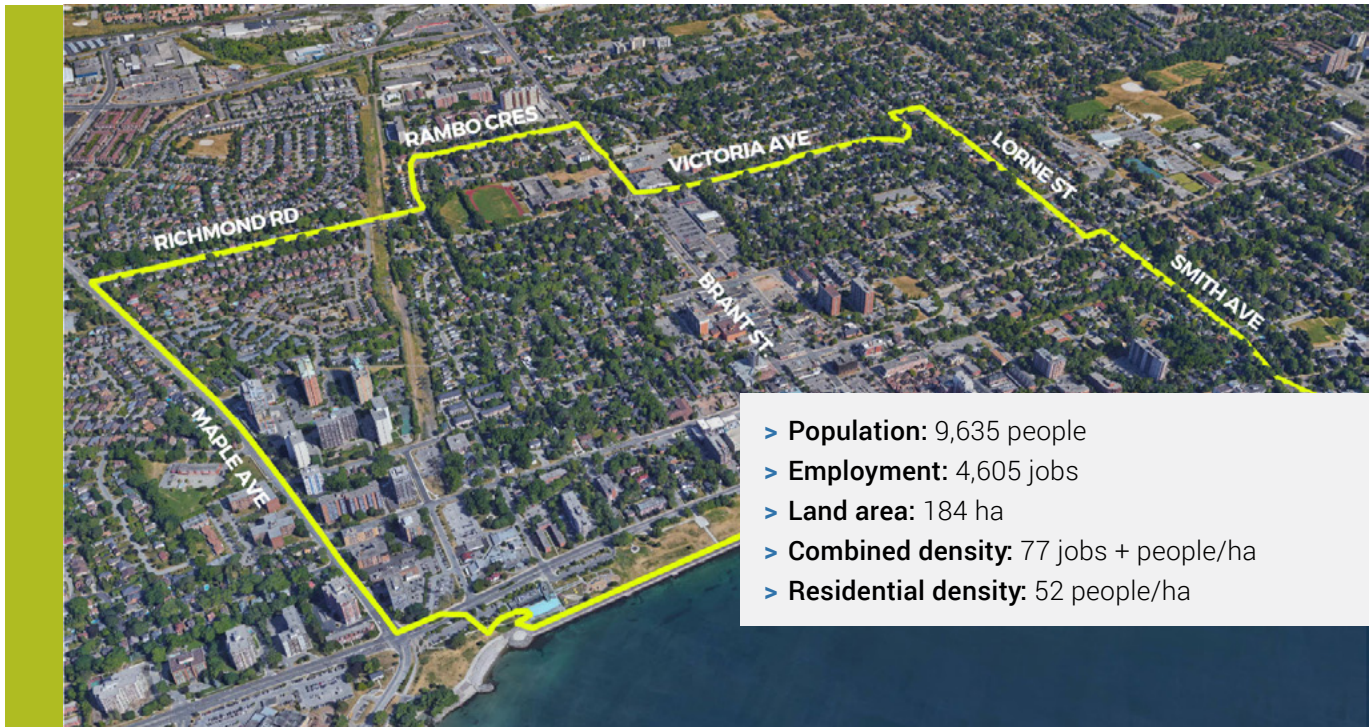
At the block scale, the residential density of smaller areas (block level) was calculated using Census Data for Dissemination Blocks (smaller than Dissemination Areas), which were then divided by the number of hectares. Since employment data is not available at the Dissemination Block level, the combined density was not calculated for these areas.

Drone photography and Google Earth were used to visualize what the densities look like at the two different scales.



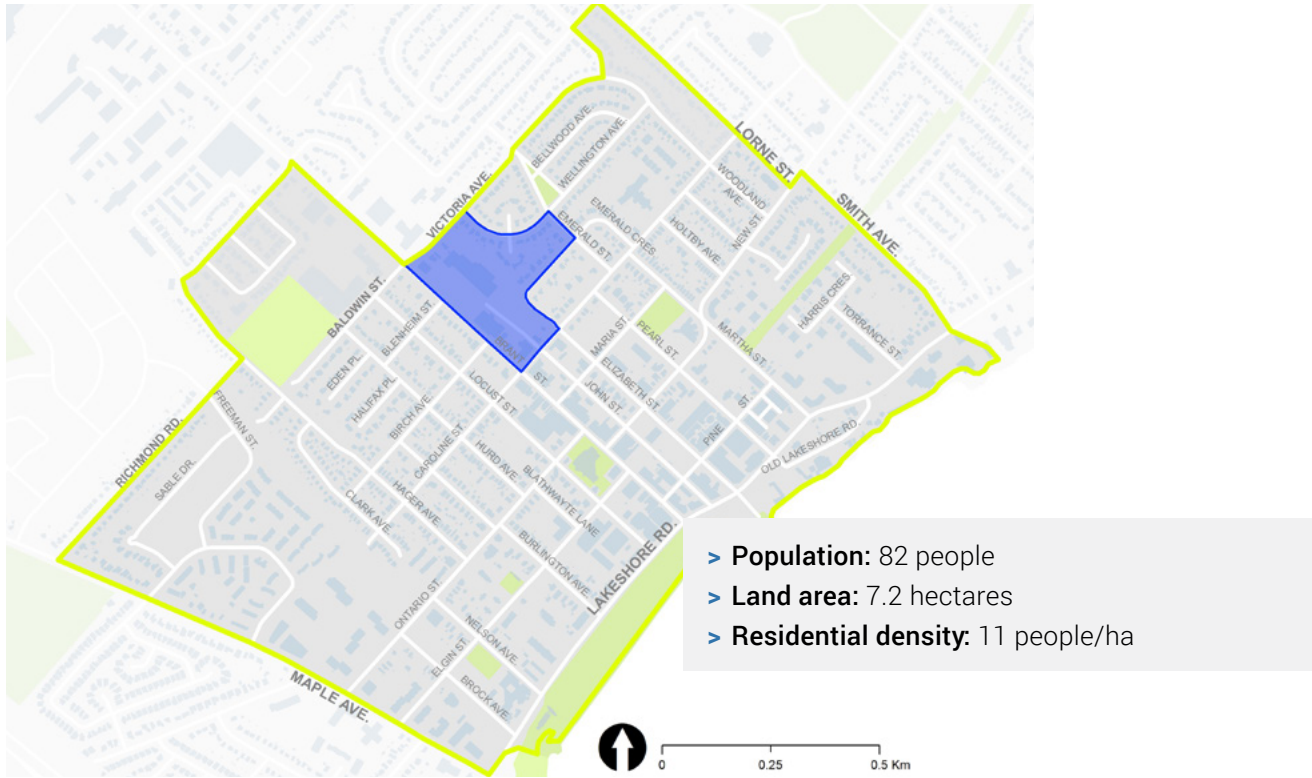
Neighbourhood Level

Source: Canadian Urban Institute, 2016



Source: Canadian Urban Institute using Google Earth (2016)

Block Level



Source: Canadian Urban Institute using Burlington Open Data, 2016



Canadian Urban Institute using Google Earth, 2016

COMPLETE COMMUNITY ASSESSMENT TOOL

As part of Visualizing Density, CUI developed six “Drivers of Complete Communities.” These are the factors that we understand to work with density to create vibrant, inclusive, desirable places for people to live and work.

For each Driver, we selected several Measures for understanding its presence in a community. Drone photography, Google Earth, Google Street View, and other easily accessible data sources were used to assess the presence of each Measure.

DRIVERS	DESCRIPTION	MEASURES
Walkability	Good design of streets, such as the use of a grid network and pedestrian pathways (as opposed to cul-de-sacs), can optimize pedestrian movement. Connectivity between places and having destinations to walk to (parks, shopping, schools) are also key. Many sources refer to 400m as a “reasonable” distance for people to walk to a local transit stop (Ministry of Transportation, 2012). This was used as a general measure for walkability to destinations within each case study.	<ul style="list-style-type: none"> • Walking distance to destinations • Street connectivity and block size • Sidewalks
Built Form Diversity	A variety of building types can help to ensure a neighbourhood accommodates diverse residents and supports residents over the course of their lifespan. Having policy and zoning that support infill means a neighbourhood can utilize development potential and evolve over time.	<ul style="list-style-type: none"> • Diverse range of building types • Supportive policy and zoning for growth • Area of parking lots (hectares)
Green and Open Space	Access to green and open space (i.e., parks, playgrounds, or trails) is strongly connected to neighbourhood livability, health, and quality of life. The average green space provision rate in Canadian cities is 9.2 hectares/1,000 people (Evergreen, 2004).	<ul style="list-style-type: none"> • Park space (hectares)
Amenities	Retail and services, recreational and community centres, schools, and child care are all types of amenities. Access to good amenities is one of the most important things people look for when choosing a place to live.	<ul style="list-style-type: none"> • Retail and services • Community facilities • Number of jobs
Transit	Access to transit is critical for creating sustainable and healthy communities; it reduces reliance on cars, lowers greenhouse gases, and increases walkability. Some sources suggest that 50 people and jobs per hectare is a “transit-supportive” density, while others suggest this ratio is much higher (Allen and Campsie, 2013).	<ul style="list-style-type: none"> • Transit stops • Accessibility of transit hubs and regional transit
Design	The look and feel of a community, the scale and character of the buildings, and the design of the public realm all make a big impact on the livability of a place. How the built form is organized—and whether it primarily supports the circulation and storage of cars or people—makes an impact on livability.	<ul style="list-style-type: none"> • Scale, height, and character of buildings • Attractive and vibrant public realm

The key to building complete communities may be to ensure that higher density can evolve by not reinforcing homogeneity but rather by allowing incremental intensification through infill and a variety of building types.

KEY FINDINGS FOR MID-SIZED CITIES

Density is not a design recipe; higher density doesn't have to mean high-rise. Achieving a certain residential density will not guarantee a viable urban centre or sustain benefits such as viable public transport or walkability. Higher density does not always equal higher buildings. A high-rise tower with large units set on a park-like site may be lower density than a variety of low or mid-rise buildings and detached houses on smaller lots. Perceptions about density are not highly related to any one building type, but they are affected by landscaping, aesthetics, noise, and building type—in a word, design. Similarly, zoning bylaws that allow for a mix of uses and variety of building types will likely both achieve density targets and create the diversity and walkability that supports inclusive, complete communities.

Density can evolve over time. Higher densities don't have to equal overcrowding and congestion. Intensification can happen in a subtle, incremental way through buildings that “fit” into the existing community. Good design and appropriate zoning can introduce density that is not intrusive. The case studies help to show examples of good design in existing communities.

A variety of building types is a key to good density. Well-designed communities contain a mix of housing types that provide for the needs of residents at all stages of their lives. The way these housing types are

arrayed—through a variety of street configurations, block sizes, lot sizes, site layouts, and designs—can produce different densities. Although density is a useful way to measure what is being achieved with new development, it isn't necessarily the best or only way to make the decisions that lead to the kind of development anticipated with the province's plans. The key to building complete communities may be to ensure that higher density can evolve by not reinforcing homogeneity but rather by allowing incremental intensification through infill and a variety of building types.

Density can help create the critical mass of people needed to support the other attributes of complete communities. The more people living in a neighbourhood, the more likely it will be able to support frequent higher-order transit service and quality retail. Various tools in the planning–approval process allow community amenities like child care, library services, human services, and parks to be paid for by higher density. More compact, high-density neighbourhoods are positively associated with walkability and more active lifestyles, reducing rates of obesity, diabetes, and cardiovascular illnesses. Higher density neighbourhoods can help to ensure a mix of housing types, including affordable housing that supports a range of family types and allows people to stay in their communities as they age.

Many factors affect density calculations. The density numbers we show in the visualizations are meant to give people the look and feel of what various density numbers look like in different communities. In the case studies, density is measured at the neighbourhood and block scales. Density varies greatly depending on the scale or base land area used in the density calculation. The parcel or site density is almost always higher than the neighbourhood density, because at a neighbourhood scale more land not in development (e.g., parks, roads, etc.) is included in the base land area calculation.

OPPORTUNITIES AND NEXT STEPS

The Visualizing Density pilot project provided a platform to explore the concept of density and the characteristics of complete communities in real GGH neighbourhoods. There is an opportunity to build on this work to further support provincial and municipal objectives related to growth management, increased density, and building healthy communities.

Support municipalities and community groups in conducting Complete Community Assessments.

The case study approach to measuring density and assessing the presence of complete community attributes can be easily replicated and used by municipalities, university courses, or volunteers. The methodology provides a way for these groups to explore aspects of the built environment and learn best practices for designing and planning higher-density complete communities.

Build out the Complete Communities Measurement Framework.

There is an opportunity to build out and strengthen the Drivers and Measures of a Complete Community—by, for example, adding new measures, tracking and comparing trends across different communities, and creating a guide that would allow the measurement framework to be used easily by others.

Educate the public and stakeholders about density and relationship to complete communities.

There is a need to raise awareness about the Growth Plan and key growth planning concepts in order to support effective, sustainable growth in our neighbourhoods, towns and cities. The findings and methodology from this research can provide a basis for educating the public and stakeholders about how our neighbourhoods can accommodate growth, while at the same time creating vibrant, desirable place for people to live.

The more people living in a neighbourhood, the more likely it will be able to support frequent higher-order transit service and quality retail.

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