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# Manufacturing change and policy response in the contemporary economic landscape: how cities in Ontario, Canada, understand and plan for manufacturing

Evan Cleave <sup>a</sup>, Marcello Vecchio<sup>b</sup>, Duncan Spilsbury<sup>b</sup> and Godwin Arku<sup>b</sup>

## ABSTRACT

Despite its nearly half-century decline in Western countries, manufacturing remains a vital part of local and regional economies. This importance is reflected in the economic development policies of cities, which are struggling to understand the current state of manufacturing and what they should do to either reinforce or replace it. Within the scholarship and practice, however, there is limited understanding of the policies that are adopted and whether they have potential to have a meaningful impact for the cities that adopt them. To address this gap, this research considers the way that manufacturing is contextualized and responded to within the local economic development planning documents of 47 (of 51) cities in Ontario, Canada. Through a comprehensive content analysis, it examines whether there are variations in the way cities approach manufacturing. Based on chi-square analysis, the findings show that there is considerable homogeneity in the way that cities of all sizes are approaching manufacturing, suggesting they are not adequately considering the local context in their policy, and rather focus on more general and previously adopted approaches. However, there is an emerging spatiality to the policy that was identified, which presents cities with a pathway forward to address manufacturing within their local economic development.

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## INTRODUCTION

Debates in academic and political spaces are currently underway regarding the place of manufacturing in the economies of Western societies. Much of the debate emerged against the backdrop of challenges confronting the manufacturing sector – evidenced by frequent closing of industrial plants and declining manufacturing employment. Industrial plant closures have become a defining feature of the economies of Western societies, as part of wider processes of global economic

## CONTACT

(Corresponding author)  [evan.cleave@ryerson.ca](mailto:evan.cleave@ryerson.ca)

<sup>a</sup>Department of Geography and Environmental Studies, Ryerson University, Toronto, ON, Canada.

<sup>b</sup>Department of Geography, University of Western Ontario, London, ON, Canada

restructuring, technological change, trade and changing policy environment, leaving ‘deep holes’ in many local economies (Arku, 2015; Bailey, Bentley, de Ruyter, & Hall, 2014; Bradford, 2010; Tonts, Plummer, & Lawrie, 2012). In these affected communities, plants that have been the backbone of the community for decades and key sources of jobs are disappearing overnight. For instance, General Motors disclosed its intention to close production at five facilities in North America and slash thousands of employees with little preceding warning in December 2018. The impacts of industrial restructuring on communities, involving issues such as outsourcing, job loss, reduced output, loss of private industry leadership, creation of an emotional and civic void, and loss of community identity have been well documented in the scholarship (e.g., Bourne, Brunelle, Polèse, & Simmons, 2011; Christopherson, Martin, Sunley, & Tyler, 2014; Wolfe & Gertler, 2001). As well, manufacturing-related issues are regularly covered by the news media and have permeated the consciousness of all levels of government, and are often prominent political issues during election periods in all Western countries.

What is less clear is the way manufacturing is currently understood, contextualized and addressed within policy-making circles – particularly at lower levels of government. To rectify this uncertainty, the purpose of this paper is to identify and analyse the current economic development policies of cities in the Province of Ontario, Canada; specifically investigating how they are dealing with the changing manufacturing sector. The paper addresses four specific questions regarding the policy response of city governments to the transformation of the manufacturing sector:

- How do cities contextualize manufacturing within their local economic development planning?
- What are the challenges that cities have identified with manufacturing and its decline?
- What are the policies that cities are proposing to mitigate the impacts of manufacturing challenges?
- What are the sectors that cities see as viable alternatives to manufacturing?

To answer these questions on what cities are doing about manufacturing within local economic development, this paper draws on the content of the written economic development policies of cities. A comprehensive content analysis of Ontario cities’ economic development plans was undertaken to analyse critically manufacturing sectors within the wider economic development policies. This paper uses these strategic documents, as studies have demonstrated recent efforts by cities in Canada and the United States to codify their economic development planning and policy-making through the adoption of formal written plans (Arku, 2014; Cleave, Arku, & Chatwin, 2017; Osgood, Opp, & Bernotsky, 2012; Reese & Sands, 2007; Taabazuing, Arku, & Mkandawire, 2015). Typically, cities economic development plans identify key sectors of emphasis and initiatives to be undertaken to meet the prescribed targets – within the context of the history, socioeconomic and political realities of community. Until the last few decades, the creation of a formal economic development plan at the local level was uncommon. For example, formal local planning and policy documents were rare in the late 20th century, with Osgood et al. (2012) noting that fewer than half the cities in the United States had a formal document in 2009, with a similar pattern being observed in Ontario (for a detailed history and context of local economic development policy documents – particularly in Ontario – see Arku, 2015; and Cleave, Arku, & Chatwin, 2017, 2019). This, therefore, remains an underexplored area of economic and policy research.

The focus on manufacturing within these policy documents is necessitated by its importance within economies and policy at all scales of government. While various sectors in the economy of Western societies have undergone significant changes over the decades, the transformation of the manufacturing sector and associated impacts is of interest for several reasons. Historically, manufacturing has been responsible for changing the world through regular inventions and technical

improvements in machinery and manufactured products to the development of new production systems (Best, 2001). Additionally, the sector has played a critical role in creating the evolving global economy and in driving economic development at all geographical scales (Vanchan, Bryson, & Clark, 2015). For many decades, the manufacturing sector has been the backbone of industrialized economies employing about one-fifth of all jobs during its peak (Charles, Hurst, & Notowidigdo, 2016). Geographically, manufacturing tends to be spatially concentrated in contrast to other economic sectors; as such, shocks to the manufacturing sector often have larger local effects and regional spillovers (Charles et al., 2016). Finally, manufacturing, compared with other economic sectors, has typically dominated policy debates, including international trade negotiations, as, for example, the recently concluded North American Free Trade Agreement (NAFTA) renegotiation (renamed the United States–Mexico–Canada Agreement).

In part, the paper is motivated by the surprising lack of research and documentary evidence on policy relating to manufacturing at the local level given economic changes over the years, despite its frequent media coverage and political attention. Examining local policies relating to manufacturing will enable one to draw some conclusions about the current economic development landscape and the accompanying policies, considering Western cities' ongoing economic struggles. Among other findings, the results show a spatial element to manufacturing policy, which to the best of the authors knowledge has not been previously found.

## THEORETICAL CONTEXT

This research on the way manufacturing is approached in local economic development practice occurs at the nexus of two key areas of theoretical context: first, of global capitalism and globalization; and second, of neoliberalism and the rise of entrepreneurial modes of governance. Together, these reshape the status of the manufacturing sector and help inform understandings of the responses of local governments to the challenges their communities face. In many regards, the issues of manufacturing and local economy are heavily steeped in contemporary political-economics, where the forces of the global capitalist system and globalization have reshaped the economic landscapes of Western societies through the reorganization of industrial sectors (Holmes, Rutherford, & Carey, 2017; Rutherford & Holmes, 2008), spatial fixes and the geographical reorganization of manufacturing (Hall, 2015; Harvey, 2001; Malecki, 2004), increased challenges from emerging markets (Wolfson & Frisken, 2000), and the reorientation of local and regional economies (Bradford & Wolfe, 2013; Vinodrai, 2015; Wolfe & Gertler, 2001).

Within the larger historical context of global capitalism, economic development has often been characterized as a zero-sum game, being embedded in a framework of inter-place competition for resources, jobs and capital (Cleave, Arku, Sadler, & Gilliland, 2017; Malecki, 2004). Owing to the zero-sum constraints of the economic system, development activity becomes an exercise in uneven development, as the market simply reorganizes capital, labour and production over space (Malecki, 2004), rather than attempting to address economic issues from a more holistic and sustainable perspective. Owing to this potential for uneven accumulation, municipalities can become so depleted by outmigration of economic resources that beset with a broad range of urban issues, as globalization and changing work opportunities associated with post-Fordist economic restructuring have led to a growth in intraurban social disparity and polarization (Walks, 2011). The same global processes further the need to address economic development within local policy-making.

Local policy-making has been going through its own restructuring. From a theoretical standpoint, the need for local economic development planning is associated with the broad political-economic forces of neoliberalism (Brenner & Theodore, 2002; Harvey, 2006), and the emergence of entrepreneurial governments at the local level (Hall & Hubbard, 1996; Jessop, 1998). In many Western countries – including Canada – there has been a spatial restructuring of governance responsibilities. For instance, the Province of Ontario has seen a continual devolution of

responsibility from provincial to local governments since the mid-1990s – including responsibility for managing and growing local economy (Arku & Oosterbaan, 2015).<sup>1</sup> This includes a downloading of financial responsibilities from upper levels of government (Arku, 2015). Large, one-off investments are still common in Ontario for single projects (e.g., the 2018 federal and provincial investments relating to advanced manufacturing and innovation in the province), but consistent funding to support day-to-day operations and strategic planning and policy-making has dried up. For example, the main funding transfer mechanism from the province to local governments – the Ontario Municipal Partnership Fund – has been reduced from C\$618 million to C\$505 million, and most economic development funds (i.e., the Rural Economic Development Program and the Communities in Transition Program) have been suspended. This has forced local governments to cover a greater proportion of their local economic development efforts. This reorientation of responsibility can be linked with the broader transition of upper levels of government away from welfare policy-making towards a more workfare-oriented state. In many Western nations, there has been pressure for austerity measures to be considered by all levels of government – particularly following the recession of the mid-2000s. For local governments in Ontario and Canada, this includes reduction of public services (of which local economic development is a part) and tighter constraints on taxation and spending (Arellano & Bai, 2017; Courtney & Hickey, 2016). Local governments in Ontario are obligated to be transparent to the public about their debt and spending (Brusca & Montesinos, 2016). Together this framework, combined with tight legislative controls held by the province (see next section), constrains what cities can do to fund, invest in and undertake local economic development efforts.

In light of the pressures facing cities due to being responsible for crafting their own economic trajectories with limited resources and decreased support from upper levels of government – while simultaneously being buffeted by a rapidly evolving global economic system – it is understood that local governments have become increasingly entrepreneurial in their approaches to governance and policy-making (Hall & Hubbard, 1996; Jessop, 1998; Peck, 2014; Swyngedouw, 2007). This has led cities to become more proactive in their economic development efforts, shifting away from the managerialism that dominated the 20th century. While increasingly business-like and profit-motivated, this transition towards entrepreneurial governance models has introduced greater privatization of policy-making, the rise of power held by external consultancies in policy development and ultimately the development of broad networks of policy migration (McCann & Ward, 2011). This new reality has been critiqued as causing convergence of approach and thought within policy-making structures, as well as policy homogenization (Cleave, Arku, & Chatwin, 2019; McCann & Ward, 2011). The implication is that the policies being adopted to address manufacturing may not be ill-advised, and not locally relevant or practical, but are adopted because they are politically expedient. As a result, there has been a perceived need for cities to become more careful, formal and strategic in their planning and practice and the need for better understanding of how cities contextualize and respond to specific issues such as manufacturing within these documents.

## **EVOLVING MANUFACTURING AND ECONOMIC DEVELOPMENT: OVERVIEW OF THE DEBATE AND RESEARCH**

Over the years, manufacturing has attracted extensive attention in scholarly, media and political circles for both good and bad reasons, with mentions of manufacturing often generate mixed emotions in some communities. For greater parts of the 19th and 20th centuries, manufacturing formed the bedrock of Western economies, contributing to new inventions, generating technical improvements in machinery along with developing new production systems (Best, 2001), employing millions of people, serving as vital source of international trade and economic growth, and often being the key driver for innovation in national economies. Vanchan et al. (2015, p. 3)

note that ‘the ongoing formation of a global economy would be impossible without products produced by manufacturing production systems’. Local practitioners for decades acted as ‘salesmen’ (Taabazuig et al., 2015, p. 151) who designed their economic development programmes around industrial recruitment (known as ‘smokestack chasing’) by offering incentives such as cheap land, labour or lax environmental regulations.

With the transition to the so-called ‘new economy’, most developed market economies have experienced deindustrialization, which, among other things, involved a relative decline in industrial employment and a rise in service employment and the emergence of knowledge-based industries (Vanchan et al., 2015, p. 3). The common perception is that manufacturing no longer matters as it used to be before the 1970s. For instance, writing about Britain’s manufacturing struggles, Beadle (2007, p. 10) argues that

Britain’s manufacturing industry is spent. We are in an age where our chief export is intellectual property. To design fantastic things that people will want to buy, we need a nation of people who can dream things up, not simply regurgitate and obey.

Those who see manufacturing as a spent force in the current Western economies have often called on governments and policy-makers to leave the sector behind and focus economic policy on emerging sectors such as information technology. The general assumption is that the ‘manufacturing train’ in developed economies ‘has left the station’ for good (Christopherson, 2015, p. 42).

In part, the struggle that the manufacturing sector in Western economies has been faced with has been attributed to the emergence of new global commodity chains and the continued fragmentation of production (Dicken, Kelly, Olds, & Yeung, 2001). That is, deindustrialization is seen as differentials in factor inputs with a focus on labour costs and the transfer of production from high- to low-cost labour locations in the developing world (Vanchan et al., 2015). Other frequently cited reasons include broader transformation in the manufacturing sector as evidence in emergence of new advanced technologies, products, processes such as automation and the rise of robotics (Acemoglu & Restrepo, 2017), and new forms of economic competition (Christopherson et al., 2014). While these trends affect all cities within a region, Hall and Hall (2008) argue that smaller cities are more susceptible, as they lack the population density, diversified economy and connections to other upper tier global cities held by large metropolitan regions (i.e., Toronto in the Ontario context). Many cities located in peripheral regions reliant on resource extraction and manufacturing have experienced significant job losses (Bourne & Simmons, 2003). An outcome is that these cities have experienced slow growth or population decline (Hall & Hall, 2008), with a constant erosion of talent within the labour force, bled away through the relocation of workers and students to major cities with greater employment, social, cultural and educational opportunities (Merrilees, Miller, & Herington, 2013). This process has left affected cities with an aging workforce that is limited in capacity and a skills mismatch, limiting suitability for the city to be a site of contemporary production.

Despite manufacturing struggles, the sector still constitutes a vital part of Western societies. In the United States, for instance, despite job losses since the 2000s, real manufacturing output is at least 5% higher presently than it was before the 2000s, suggesting that the sector in some ways is just becoming capital intensive (Charles et al., 2016). Thus, some have rebutted suggestions about the death of manufacturing, and instead points to the sector’s transformation as strength and evidence of relevance in the new economy (Bryson & Daniels, 2010; Moretti, 2012). Manufacturing employment decline, it is argued, is simply a reflection of capital and knowledge-based improvements in the sector.

Since the 1970s, the manufacturing sector struggle and transformation has attracted considerable academic research. However, as Vanchan et al. (2015, p. 5) rightly observe, ‘academic

understanding of manufacturing has not kept pace with these transformations'. Much of the scholarly work has focus has been at the national level and centred on trying to understand employment dynamics of the sector, including declining employment and its impact on labour force participation based on age (Aguiar, Bils, Charles, & Hurst, 2017), labour market outcomes (Charles et al., 2016), as well as impacts of automation (Acemoglu & Restrepo, 2017). Other studies have revolved around understanding the new knowledge-based economy (Bryson, Daniels, & Warf, 2004). Manufacturing is a local issue as much as it is a national scale issue. It is at the local level that employments are created, spin-offs are generated and impacts are most felt. As such, understanding the local policy environment on how local governments are contextualizing manufacturing within the broader local strategies is important. Equally important is understanding policies that cities are proposing to mitigate the impacts of manufacturing challenges, as discussed above. To date, little is known about the place of manufacturing in local policies, and how local economic development policy is dealing with the sector.

## RESEARCH CONTEXT: THE PROVINCE OF ONTARIO AS A STUDY AREA

The Province of Ontario represents a useful case study for studying manufacturing in the context of local economic development planning and policy-making for several reasons. It is the key economic region of Canada, containing one-third of its population and nearly half its economic output.

From a contextual perspective, Ontario faces many of the same issues related to manufacturing as other advanced economies. The contemporary political-economic issues that have spurred on economic change – the global capitalist system, globalization and the resulting reorganization of industrial sectors, flight of large-scale firms to emerging and peripheral markets through spatial fixes, and the reorientation of local economies – are felt in both Ontario and abroad (Bradford & Wolfe, 2013; Hall, 2015; Harvey, 2001; Rutherford & Holmes, 2008; Vinodrai, 2015; Wolfe & Gertler, 2001; Wolfson & Frisken, 2000). Deindustrialization in Ontario was magnified by the gradual liberalization of trade in North America since the early 1990s (Cleave et al., 2019; Wolfe & Gertler, 2001). As a result, Ontario faces many of the same political-economic issues occurring in Western economies.

Owing to longstanding legislative controls held by the provincial government, cities in Ontario are severely restricted in spending and limited in the financial tools available to them for attracting and retaining large firms (Cleave, Arku, Sadler, et al., 2017; Reese & Sands, 2007) compared with other approaches in other regions that have prioritized tax breaks, bonuses and other incentives (Malecki, 2004). To overcome these challenges, local governments have become acutely aware of the need for robust economic development planning and policy formulation to stabilize and grow their local economies. Broad catalogues of this approach to policy have been conducted by Reese and Sands (2007), Arku (2014) and Cleave, Arku, and Chatwin (2017, 2019), but have not specifically focused on manufacturing.

Manufacturing remains a key priority in Ontario. The provincial government has allotted approximately C\$C1 billion in grants and infrastructure improvements – particularly focused on southern Ontario – to generate employment opportunities by cultivating modern manufacturing industries. Furthermore, in 2018 the federal government announced C\$950 million funding to promote clusters in Canada, of which at least C\$230 million is to be invested in southern Ontario to promote automation and develop a manufacturing super cluster. Ontario has felt the impact of the political economic pressures outlined above, seeing a decline in manufacturing in line with other advanced markets. Much of the evidence against manufacturing relevancy in the present Western economies centres on frequent plant closures, outsourcing, job losses and declining productivity, among others. For instance, US data suggest that manufacturing employment fell by 2 million and 5.5 million between 1980 and 2000, and 2000 and 2016, respectively

(Charles et al., 2016). Likewise, in Canada, since 2001, the country has lost an estimated 498,000 manufacturing jobs (Statistics Canada, 2019). Ontario has been the primary area where these job losses have occurred. Despite the overall population of the province increasing by about 22% in the first two decades of the 20th century, the manufacturing labour force has reduced by 28%, or 290,000 jobs (Statistics Canada, 2019). This loss has also manifested itself at the local level. A decline in manufacturing employment of 33% (or approximately 225,000 jobs) was recorded in cities between the 2001 and 2016 censuses (Statistics Canada, 2001, 2016), with 47 of the 51 cities in the province having experienced decline (Table 1).

In the broader issues of increasing international trade, globalizing investment markets and technological advancements in both production and information, which have contributed to the ongoing economic challenges in Ontario (Vinodrai, 2015), and the tangible decline in manufacturing output and employment, Ontario provides a useful case geographical region.

## METHODS

This study considered how cities are approach issues related to the manufacturing sector through local economic development policy and how city population size and geography influenced these tactics. To investigate how cities in Ontario are formulating their economic development policy regarding manufacturing, a comprehensive content analysis of the most recent local policy was undertaken for the province's 51 cities. These are municipalities with official designation as 'cities' (Cleave, Arku, & Chatwin, 2017; Reese & Sands, 2007). The study adopts a content analysis approach because the method allows for the examination for trends and patterns in the policy documents, from which broad conclusions can be drawn from various sources if they are representative of the population being examined (Chatwin, Arku, & Cleave, 2019).

A total of 47 of the 51 Ontario cities currently have a formal written economic development plan or specific section in their broader strategic plan. This is a local government statement on what it intends to do within its jurisdiction to promote growth and enhance the economic and social well-being of residents within a given period. Although having a written plan does not guarantee economic development success, it does show methodical planning as strategic plans typically have clearly defined goals and priorities (Cleave, Arku, & Chatwin, 2017). Furthermore, a formal economic development plan ensures that cities can align their economic development priorities with the budget process and, thereby, prioritize limited resources at target areas in the community. A written plan also gives visibility to economic development at the political level and makes it possible for various community stakeholders to follow a set of common objectives and strategies consistently. Finally, a written plan permits a local government to monitor and evaluate progress towards goals and priorities to determine the effectiveness of its economic development efforts.

The study comprised 47 economic development plans (or city-wide/regional strategic plans when specific economic development plans did not exist) (Table 1). Web-based searches and direct communication with local economic development practitioners were used to ensure that current plans had been collected and analysed. Owing to the volume and uniqueness of the cities where documents were collected, the study was presented with a wide range of cities.

The content analysis procedure was conducted using the approach described by Hsieh and Shannon (2005), Cleave, Arku, and Chatwin (2017, 2019), and Chatwin et al. (2019). First, the documents were read by the entire research team to 'achieve immersion and obtain a sense of the whole' (Hsieh & Shannon, 2005, p. 1279), and to develop a broad understanding of both local economic development policy and planning in Ontario as a whole, and more specifically how manufacturing was contextualized within this larger framework. Next, the documents were re-examined to develop relevant thematic codes, related to manufacturing, using the four research questions as initial nodes to help structure the coding process. To ensure rigour and



**Table 1.** Study area regions and cities.

Region	City	Population, 2016 <sup>a</sup> (type <sup>b</sup> )	Manufacturing jobs, 2016 <sup>a</sup>	Manufacturing jobs, 2001 <sup>a</sup>	Percentage change, 2001–16
National Capital Region (NCR)	Brockville	21,346 (S)	1010	1990	–49%
	Cornwall	46,589 (S)	1965	4845	–59%
	Ottawa	934,243 (L)	15,670	35,275	–56%
Eastern Ontario	Kawartha Lakes	73,432 (S)	2780	4650	–38%
	Kingston	123,798 (M)	2295	3810	–40%
	Pembroke	13,882 (S)	240	500	–52%
	Peterborough	81,032 (M)	2730	4245	–36%
	Prince Edward County	24,753 (S)	835	1430	–42%
	Greater Toronto Area (GTA)	Barrie	141,434 (M)	7705	9205
	Brampton	593,638 (L)	45,780	43,100	6%
	Cambridge	129,920 (M)	14,455	19,330	–25%
	Guelph	131,794 (M)	14,310	15,460	–7%
	Kitchener	233,222 (M)	21,370	28,155	–24%
	Markham	328,966 (M)	14,165	16,015	–5%
	Mississauga	721,599 (L)	43,080	61,780	–35%
	Orillia	31,166 (S)	1105	1550	–29%
	Oshawa	159,458 (M)	7950	15,070	–47%
	Pickering	91,771 (M)	3470	6216	–44%
	Toronto	2,731,571 (L)	106,385	186,870	–44%
	Vaughan	306,233 (M)	16,990	15,730	8%
	Waterloo	104,986 (M)	5930	9415	–37%

Golden Horseshoe	Brant	36,707 (S)	3095	3705	-16%
	Brantford	97,496 (M)	8900	12,220	-27%
	Burlington	183,314 (M)	9930	13,320	-25%
	Haldimand County	45,608 (S)	3255	4445	-27%
	Hamilton	536,917 (L)	31,550	49,005	-32%
	Niagara Falls	88,071 (M)	3285	5835	-44%
	Norfolk County	64,044 (S)	1140	1775	-36%
	Port Colborne	18,306 (S)	1125	1840	-39%
	St. Catharines	133,113 (M)	5760	10,875	-47%
	Welland	52,293 (S)	2340	5145	-55%
Southwestern Ontario	London	383,822 (L)	19,335	25,375	-24%
	Owen Sound	21,341 (S)	1130	1565	-28%
	Sarnia	71,594 (S)	3570	5150	-31%
	St. Thomas	38,909 (S)	3395	4955	-31%
	Stratford	31,465 (S)	3545	4900	-28%
	Windsor	217,188 (M)	19,655	29,145	-33%
	Woodstock	40,902 (S)	740	4570	10%
Northern Ontario	Dryden	7749 (S)	310	985	-69%
	Elliot Lake	10,741 (S)	115	165	-30%
	Greater Sudbury	161,531 (M)	3675	4865	-24%
	Kenora	15,096 (S)	335	720	-53%
	North Bay	51,553 (S)	1140	1775	-36%
	Sault Ste. Marie	73,368 (S)	3520	5290	-33%
	Temiskaming	9920 (S)	315	470	-33%
	Shores				
	Thunder Bay	107,909 (M)	2850	5930	-52%
	Timmins	41,788 (S)	740	1255	-41%

Notes: Clarence-Rockland (National Capital Region – NCR), Belleville and Quinte West (Eastern Ontario), and Thorold (Southern Ontario) did not have official plans; additionally, Thorold was the only one of these four cities that experienced an increase in manufacturing employment (6%).

<sup>a</sup>2001 and 2016 were selected as the Canadian census was conducted in these years.

<sup>b</sup>S, small city, population < 75,000; M, mid-sized city, between 75,000 and 350,000; L, large city, > 350,000.

validity, the lists of codes were developed independently by each researcher and then combined into a single master list which was consolidated to reduce repetition and redundancy. Overall, the code lists developed by the researchers were in strong agreement. From the 47 documents, over 3500 mentions of keywords were identified. From these words, 207 themes were collected and consolidated, leaving a final codebook of 47 themes structured around the four research questions (general context,  $n = 14$ ; industry challenges,  $n = 11$ ; strategies and policy goals,  $n = 12$ ; and specific sectors,  $n = 11$ ). Finally, each of the 47 documents was examined a final time to ascertain the presence or absence of each theme.

Once completed the distribution of themes were analysed based on city population size and geographical region (Table 1). To categorize cities, a simple but previously validated taxonomy was used (Arku, 2014; Reese & Sands, 2007) large cities (populations > 350,000;  $n = 6$ ), mid-sized cities (populations between 75,000 and 350,000;  $n = 19$ ), and small cities (populations < 75,000;  $n = 23$ ). A chi-square goodness-of-fit analysis with a William's correction was then used to determine if there were any relationships between city size and the themes that emerged under the research questions. This was conducted to test whether cities of different sizes would perceive, experience and respond to manufacturing challenges in different ways. Guiding this phase of research was the null hypothesis that: *Cities approach economic development/manufacturing policy in the same ways, regardless of population size.*

While previous research has examined population size to explain policy (Arku, 2015; Cleave, Arku, & Chatwin, 2017; Reese & Sands, 2007), this study recontextualizes the issue geographically. Ontario's industry is often regionally based (Randall & Ironside, 1996) and therefore should have regionally shared issues related to manufacturing degeneration. The 47 study cities grouped regionally test whether economic development policy differs geographically. The cities were divided into six regions, derived from Statistics Canada's (2016) *Economic Regions* for the Province of Ontario, delineating areas that had common labour market characteristics (Eisen & Emes, 2016, have a similar approach using economic regions and labour market characteristics since the 2009 recession). While Eisen and Emes (2016) developed a five-region model based on the overall labour market of the province, this study emphasizes characteristics of manufacturing labour and as a result implements a six-region approach (Figure 1). These regions make logical sense owing to shared historical and contemporary manufacturing trends, as well as attempting to maintain balance in city dispersion. As summarized in Table 1, there is a general consistency for cities classified into the same region based on their levels of manufacturing employment between 2001 and 2016. Ultimately, the regions were: National Capital Region (NCR) ( $n = 3$ ), Eastern Ontario ( $n = 5$ ); Greater Toronto Area (GTA) ( $n = 13$ ); Golden Horseshoe ( $n = 10$ ); Southwestern Ontario ( $n = 7$ ); and Northern Ontario ( $n = 9$ ). For this stage of research, the null hypothesis proposed was: *Cities approach economic development/manufacturing policy in the same ways, regardless of location.* As with population, chi-square analysis with a William's correction was used to test this hypothesis and delineate any overall patterns of themes based on geography.

## RESULTS

Based on the content analysis of the 47 local economic development policy documents, a total of 47 themes were identified as connected with the study's four research questions. Tables 2–9 provide a summary of the content analysis, presenting the prevalence of each theme for each city and are discussed in greater detail throughout this section. On average, each manufacturing-related theme appeared in the documents of 51% of the cities, with contextualization, specific sectors, challenges faced and policies suggested occurring in 72%, 43%, 32% and 55%, respectively.

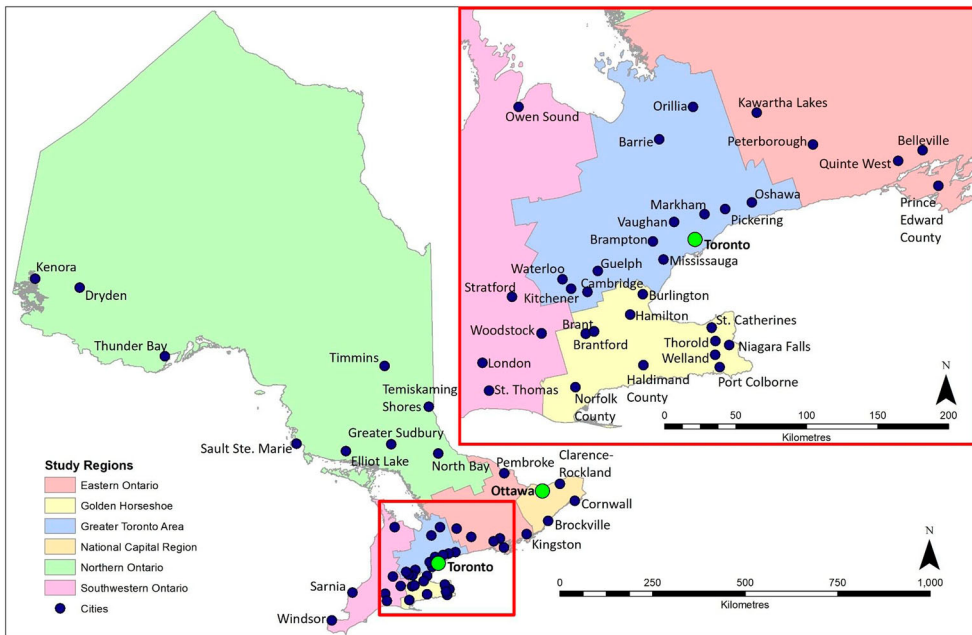


Figure 1. Study area (regions and cities).

### Contextualizing manufacturing in local economic development policy

Overall, issues related to manufacturing were contextualized as part of broader changes to traditional economic sectors, with 41 of 47 cities using ‘global economic restructuring’ and ‘transitional economy’ narratives to explain manufacturing decline in their local economic development policy documents (Tables 2 and 3). As an illustration, the City of Peterborough (2015, p. 2), when discussing its economic trajectory, notes: ‘we are no longer dealing with the same economy

Table 2. Chi-square results: manufacturing contextualization by city size.

	Small (n = 23)	Mid-sized (n = 19)	Large (n = 6)	Test result ( $\chi^2$ )
Changes to the traditional economy	87%	79%	100%	1.71
Industry clusters	48%	89%	100%	<b>11.56*</b>
Auto sector decline	17%	32%	0%	3.07
Labour issues around manufacturing	78%	89%	67%	1.82
Green industries	57%	74%	83%	2.24
Reusing industry facilities	35%	32%	33%	0.05
Primary industry	74%	32%	0%	<b>13.78*</b>
Agri-business	74%	68%	33%	3.57
Creating an entrepreneurial environment	96%	95%	100%	0.32
Serviceable manufacturing	87%	79%	333%	1.40
Energy	78%	74%	83%	0.28
Increased investment into the tech and advanced manufacturing sector	87%	95%	100%	1.45
Infrastructure and logistics improvements	91%	89%	100%	0.67
Establishing and attending industry outreach programmes	96%	84%	100%	2.41

Note: \*Significant at 0.05 (2 d.f.; CV = 5.99).

**Table 3.** Chi-square results: manufacturing conceptualization by region.

	National Capital Region (NCR) (n = 3)	Eastern Ontario (n = 5)	Greater Toronto Area (GTA) (n = 13)	Golden Horseshoe (n = 10)	Southwestern Ontario (n = 7)	Northern Ontario (n = 9)	Test result ( $\chi^2$ )
Changes to the traditional economy	67%	80%	92%	90%	71%	100%	4.21
Industry clusters	33%	80%	100%	70%	71%	33%	<b>12.33*</b>
Auto sector decline	0%	0%	23%	20%	71%	0%	<b>13.34*</b>
Labour issues around manufacturing	67%	80%	85%	80%	100%	67%	3.04
Green industries	67%	60%	85%	80%	43%	44%	3.17
Reusing industry facilities	0%	40%	38%	40%	43%	22%	2.46
Primary industry	33%	20%	31%	40%	57%	100%	<b>12.35*</b>
Agri-business	33%	80%	62%	80%	71%	56%	3.07
Creating an entrepreneurial environment	100%	100%	100%	90%	100%	89%	2.81
Serviceable manufacturing	100%	60%	69%	100%	71%	89%	6.27
Energy	67%	60%	85%	70%	71%	89%	3.06
Increased investment into the tech and advanced manufacturing sector	100%	40%	100%	90%	100%	56%	<b>17.36*</b>
Infrastructure and logistics improvements	100%	60%	92%	100%	100%	89%	7.57
Establishing and attending industry outreach programmes	100%	60%	69%	100%	100%	100%	10.32

Note: \*Significant at 0.05 (5 d.f.; CV = 11.070).

**Table 4.** Chi-square test results – manufacturing challenges by city sizes.

	Small (n = 23)	Mid-sized (n = 19)	Large (n = 6)	Test result ( $\chi^2$ )
Manufacturing shift	48%	58%	67%	0.86
Aging workforce and labour shortages	52%	11%	17%	<b>9.08*</b>
Lack of serviceable industrial lands	30%	37%	67%	2.67
Automation	17%	16%	17%	0.19
Globalized economy	65%	68%	67%	0.48
Competitive economy	70%	74%	67%	1.43
Lack of resources from higher levels of government	43%	21%	0%	5.36
Influx of workers after a large plant closure	17%	0%	0%	4.74
Changing community industrial image	17%	21%	17%	0.11
Local market base is too small	4%	0%	0%	1.11
Energy costs	22%	11%	33%	1.82

Note: \*Significant at 0.05 (2 d.f.; CV = 5.99).

we once were. Throughout Ontario, manufacturing has dramatically decreased in size and scope over the last generation or two. We are now confronting a new economy – one that is post-industrial'. This is further supported by the City of Prince Edward County (2013, p. 4), which described its economic transition and need to diversify its agriculturally dominated economy:

Combined with broader provincial trends such as the shift towards a service and knowledge based economy, the general decline of manufacturing and the increasing cost of entry in the agricultural sector, a 'rethink' and repositioning the County's economic development efforts is required.

Despite this acknowledgment about manufacturing, the sector was still perceived by cities as a potential economic sector of this transitioning economy, with cities identifying technology and advanced manufacturing (44 of 47) and serviceable manufacturing (38 of 47) as potential new forms of manufacturing that could be cultivated.

As Table 2 summarizes, the way that manufacturing is contextualized is homogenous across all cities in Ontario when compared, based on population size, suggesting that this economic sector is viewed and approached in a similar way across the province. Of note, *Labour Issues Related to Manufacturing* was a frequently identified priority (39 of 47 cities), as were *Improving Infrastructure and Logistics* (44 of 47) and *Establishing/Attending Industry Outreach Programs Related to Industry* (44 of 47) are contextualized as key manufacturing issues. A potential explanation for this broad trend of uniformity may relate to the long history of manufacturing decline in the province, with the effects being felt by all communities. As a result, there is wariness among all local governments towards traditional manufacturing, forcing them to discuss the sector within new economic development contexts.

Based on population, two key areas were influenced by city size in a statistically significant way: *Industry Clusters* ( $\chi^2 = 11.56$ ) and *Primary Industries* (i.e., manufacturing as a primary economic sector for the community;  $\chi^2 = 13.78$ ). *Industry Clusters*, to contextualize manufacturing, was present in a majority of large and mid-sized city documents; < 50% of small-sized cities included it in their document. A contrary pattern was identified for *Primary Industry* contextualization, as discussion relating it to manufacturing was noted for 17 of 23 small-sized cities, approximately one-third of mid-sized cities and by no large cities. This suggests that manufacturing is still being contextualized as a key economic sector by many smaller communities in Ontario, despite the growing service-based economy. At a holistic level, therefore, the null

**Table 5.** Chi-square results – manufacturing challenges by region.

	National Capital Region (NCR) (n = 3)	Eastern Ontario (n = 5)	Greater Toronto Area (GTA) (n = 13)	Golden Horseshoe (n = 10)	Southwestern Ontario (n = 7)	Northern Ontario (n = 9)	Test result ( $\chi^2$ )
Manufacturing shift	33%	20%	62%	70%	86%	33%	5.75
Aging workforce and labour shortages	100%	20%	8%	10%	43%	67%	<b>14.25*</b>
Lack of serviceable industrial lands	100%	40%	46%	60%	14%	0%	<b>13.16*</b>
Automation	0%	20%	23%	20%	14%	11%	1.19
Globalized economy	67%	20%	77%	60%	71%	78%	2.72
Competitive economy	67%	40%	77%	80%	71%	67%	2.72
Lack of resources from higher levels of government	0%	40%	23%	20%	43%	44%	3.42
Influx of workers after a large plant closure	0%	0%	0%	0%	14%	33%	10.17
Changing community industrial image	67%	0%	15%	0%	57%	11%	10.46
Local market base is too small	0%	0%	0%	0%	0%	11%	3.92
Energy costs	0%	0%	8%	30%	0%	56%	10.53

Note: \*Significant at 0.05 (5 d.f.; CV = 11.070).

**Table 6.** Chi-square results: manufacturing sectors targeted by city size.

	Small (n = 23)	Mid-sized (n = 19)	Large (n = 6)	Test result ( $\chi^2$ )
Energy sector	57%	47%	50%	0.36
High-tech industry	74%	89%	100%	3.19
Logistics and warehousing	48%	63%	67%	1.30
Health care	52%	53%	100%	4.90
Agri-business	70%	63%	33%	2.67
Forestry	39%	11%	0%	<b>6.86*</b>
Mining	39%	16%	0%	5.31
Textiles	0%	11%	17%	3.24
Food and beverage production	61%	68%	83%	1.12
Aerospace	22%	26%	17%	0.28
Automotive	22%	21%	17%	0.08

Note: \*Significant at 0.05 (2 d.f.; CV = 5.99).

hypothesis that cities contextualize manufacturing within local economic development in similar ways is not rejected.

Table 3 summarizes the ways that manufacturing was contextualized from a geographical perspective, providing a more heterogeneous pattern. From the analysis, there was regional variability identified for seven key themes where the individual null hypotheses were rejected: *Industry Clusters* ( $\chi^2 = 12.33$ ), *Auto Sector Decline* ( $\chi^2 = 13.34$ ), *Primary Industries* ( $\chi^2 = 12.35$ ) and *Investment into Tech and Advanced Manufacturing* ( $\chi^2 = 17.36$ ). Mention of clusters and cluster-based development related to manufacturing was frequent, especially in the more urbanized regions in the southern part of the province (e.g., London, Toronto and Waterloo). This was contrasted by cities located in the north (e.g., Elliot Lake, Thunder Bay and Timmins), which only contextualized manufacturing as part of this theme one-third of the time. This is not surprising as most of the Northern communities' economies (e.g., Dryden, North Bay and Greater Sudbury) are heavily dependent on primary resource extraction as was indicated by a strong regional commitment to *Primary Industry* (Table 3). Alternatively, *Auto Sector Decline* had a different geographical distribution with cities in three regions – the NCR, Eastern Ontario and Northern Ontario – ignoring the issue completely. The most frequent usage occurring in cities located Southwestern Ontario (e.g., St. Thomas, Windsor and Woodstock) and the GTA (e.g., Oshawa, which has had a precarious relationship with General Motors). A potential explanation is that these cities have traditionally been the epicentres for automotive production in the province and have been disproportionately affected by the sector's decline (Holmes et al., 2017), but have continued to prioritize it as an economic development approach. This regional perspective in Southwestern Ontario may also have been spurred on by the robust regional competition in 2008 for a Toyota plant (that ultimately located in Woodstock), which is contrasted against a continual erosion of the sector spurred on by plant closures in St. Thomas (Ford) and Windsor (Chrysler). Together these have influenced how local governments view and contextualize manufacturing within their planning and policy.

### Challenges related to manufacturing

Based on the content analysis, the perceived challenges related to manufacturing within each city's local economic development documents were diverse. Of the 11 themes that emerged related to this research question, only three were identified by most cities (*Manufacturing Shift*, 26 of 47 cities; *Globalised Economy*, 32 of 47; and *Competitive Economy*, 34 of 47).



**Table 7.** Chi-square results: manufacturing sectors targeted by region.

	National Capital Region (NCR) ( <i>n</i> = 3)	Eastern Ontario ( <i>n</i> = 5)	Greater Toronto Area (GTA) ( <i>n</i> = 13)	Golden Horseshoe ( <i>n</i> = 10)	Southwestern Ontario ( <i>n</i> = 7)	Northern Ontario ( <i>n</i> = 9)	Test result ( $\chi^2$ )
Energy sector	67%	0%	62%	50%	43%	78%	9.94
High-tech industry	100%	60%	92%	80%	100%	67%	5.89
Logistics and warehousing	67%	40%	69%	60%	57%	33%	3.19
Health care	67%	40%	69%	70%	57%	44%	2.45
Agri-business	67%	80%	54%	90%	57%	33%	6.61
Forestry	0%	20%	8%	10%	0%	89%	<b>22.61*</b>
Mining	0%	20%	8%	20%	0%	89%	<b>24.93*</b>
Textiles	0%	0%	23%	0%	0%	0%	7.62
Food and beverage production	100%	60%	85%	90%	57%	11%	<b>16.84*</b>
Aerospace	33%	20%	54%	10%	14%	0%	<b>12.59*</b>
Automotive	0%	0%	23%	10%	71%	0%	<b>15.51*</b>

Note: \*Significant at 0.05 (5 d.f.; CV = 11.070).

**Table 8.** Chi-square results: policies and strategies by city size.

	Small (n = 23)	Mid-sized (n = 19)	Large (n = 6)	Test result ( $\chi^2$ )
Pair local education institutes with industry	87%	95%	100%	1.44
Pair arts and culture with industry	48%	47%	33%	0.43
Improve industry supply chains	57%	53%	67%	0.37
Reuse of existing manufacturing facilities	35%	32%	33%	0.05
Utilize technology for local industry	70%	79%	83%	0.74
Partnering with other advanced manufacturing networks	61%	63%	83%	1.08
Increased investment and creation of advanced manufacturing ecosystems	70%	74%	83%	0.47
Labour retraining for advanced manufacturing	39%	37%	83%	4.39
Increase public perception for manufacturing sector	39%	21%	17%	2.16
Diversify economy in areas with predominantly manufacturing	87%	58%	33%	<b>8.09*</b>
Targeted marketing towards manufacturing firms	52%	47%	17%	2.45
Using existing material industry for value added production	52%	32%	0%	<b>5.99*</b>

Note: \*Significant at 0.05 (2 d.f.; CV = 5.99).

These three challenges are thematically linked and are explained by the broader changes in the global economy that has reshaped advanced economies. As the City of Elliot Lake (2013, p. 16) describes:

The de-industrialization of North America is real and urges northern Ontario municipalities to imagine new innovative ways to re-ignite economies that once relied heavily on primary sector jobs ... these strategies have to be grounded at the local scale, as it has become no longer possible to attract the next big industry.

Similarly, the County of Brant (2010, p. 32), a locality which still prioritizes the automobile sector as a vital component of its economic development strategy, stated concerns about globalization in its plan:

It is also becoming increasingly difficult to compete with lower-cost plants in parts of the U.S. and Mexico. Lower labour costs and new investments in automation in the newer plants contribute to this, as well as the relative value of the Canadian dollar against the U.S. currency.

Compared with the way manufacturing was contextualized by cities – with high rates of convergence across all themes that emerged – the manufacturing related challenges faced by Ontario cities were more specific to each city. The lack of consensus does not indicate a shortage of challenges; rather, it illustrates that each city is faced with unique issues to their local path-dependent economies. By and large, no specific patterns emerged based on city size, again suggesting an acceptance of the null hypothesis (at a general level) that city size does not affect the manufacturing and economic development challenges it perceives. The chi-square analysis found that there was only one statistically significant association between city size and challenges related to manufacturing that Ontario cities perceived: *Aging Workforce and Labour Shortages* ( $\chi^2 = 9.08$ ), which was primarily identified by small cities, and ignored by mid-sized and large cities (Table 4).

**Table 9.** Chi-square test results: policies and strategies of Ontario cities by region.

	National Capital Region (NCR) (n = 3)	Eastern Ontario (n = 5)	Greater Toronto Area (GTA) (n = 13)	Golden Horseshoe (n = 10)	Southwestern Ontario (n = 7)	Northern Ontario (n = 9)	Test result ( $\chi^2$ )
Pair local education institutes with industry	100%	100%	100%	70%	86%	100%	8.21
Pair arts/culture community with industry	67%	40%	62%	20%	71%	33%	6.31
Improve industry supply chains	67%	60%	54%	50%	71%	56%	0.9
Reuse of existing manufacturing facilities	0%	40%	38%	40%	43%	22%	2.46
Utilize technology for local industry	67%	40%	85%	70%	100%	78%	6.14
Partnering with other advanced manufacturing networks	67%	20%	85%	60%	86%	44%	<b>11.25*</b>
Increased investment and creation of advanced manufacturing ecosystems	67%	60%	92%	50%	86%	67%	5.71
Labour retraining for advanced manufacturing	33%	20%	62%	30%	86%	22%	<b>11.72*</b>
Increase public perception for manufacturing sector	33%	20%	15%	20%	43%	44%	3.22
Diversify economy in areas with predominantly manufacturing	100%	60%	38%	60%	86%	100%	<b>13.07*</b>
Targeted marketing toward manufacturing firms	33%	20%	31%	50%	71%	67%	5.57
Using existing material industry for value added production	0%	0%	23%	30%	57%	89%	<b>15.76*</b>

Note: \*Significant at 0.05 (5 d.f.; CV = 11.070).

Within the themes that emerged, *Lack of Resources from Higher Levels of Government* was a challenge that was noted by 10 out of 23 small-sized cities and by four out of 15 mid-sized cities. This is an interesting phenomenon to note owing to the scholarly assertion that smaller cities experience unproportioned economic decline compared with their larger counterparts (Hall & Hall, 2008; Siegel & Waxman, 2001). As most cities are not indicating a lack of resources from higher levels of government, it paints a picture of small communities in Ontario having the resources to cope with the economic transition but struggling to leverage these resources in increasingly fierce regional and global competition for manufacturing.

When analysed from a regional perspective, several statistically significant patterns were identified. Consistent with the work of Hall and Hall (2008) and Merrilees et al. (2013), *Aging Workforce and Labour Shortages* ( $\chi^2 = 14.25$ ) were found to be geographically dependent, with it identified as a challenge readily in Northern Ontario and the NCR, which tend to contain smaller cities (Table 5). This is contrasted against the large cities in the GTA and Golden Horseshoe, which historically have had the ability to attract immigrants, as well as highly educated and skilled talent. An opposite pattern was noted for *Lack of Serviceable Industrial Lands* ( $\chi^2 = 13.16$ ), which were a commonly cited issue across the five Southern Ontario regions, which are highly urbanized and face pressures of suburbanization and rapid population growth (particularly in Toronto and the core of the GTA). Alternatively, none of cities in Northern Ontario, which are more dispersed and have available land, views this as an issue.

Beyond these two challenges, the content and chi-square analysis demonstrated that perceptions and responses to manufacturing related issues are homogenous across the province. This supports the conjectures within the theoretical conceptualization of this paper, which argues that there is a convergence among local governments on how to perceive manufacturing and its related issues. This is notable, as issues related to manufacturing have been previously noted to have strong local context – where a city's historical and contemporary economic, social and geographical realities were thought to play a large part in how manufacturing was perceived. It seems unlikely, therefore, that the issues are converging as found in this analysis – where issues are either broadly identified or rejected. As a result, it appears that the potential impacts of manufacturing and industrial decline are being framed in broader narratives. The implication is that if local context is not being considered to understand potential manufacturing issues and impacts related to its metamorphosis and decline, then policy responses are unlikely to be carefully constructed and locally situated, limiting their potential for effectiveness.

### Specific sectors to replace manufacturing

From the content analysis, *High-Tech Industry* sector was identified by several cities (40 of 47) as potential sector to transition their local economy towards as a way of mitigating the impacts of traditional manufacturing decline. The high-tech sector was identified to be evenly distributed across all categories of city sizes (Table 6). In some regards, this is unsurprising as studies have noted that Ontario cities (as elsewhere) are enthusiastically embracing high-tech as a key economic sector in their transition to the new economy (Florida, Shutter, & Spencer, 2016). The Regional Municipality of Durham (2017, p. 11), whose plan covered both Oshawa and Pickering, indicates the importance of technology in contemporary economies as follows:

technology is no longer a separate industry on its own, but an enabler and facilitator that affects virtually every enterprise. The Internet of Things (IoT), big data, cloud computing, robotics, machine learning and artificial intelligence (AI) are all impacting business; unlocking new discoveries in materials science, nano-technology and biotechnology and transforming – even disrupting – nearly every sector.

Again, there appears to be standardization in the approaches of Ontario cities when organized by population size, as potential sectors are either commonly identified (i.e., the *High-Tech Industry*)

or scarcely (i.e., *Textiles*, *Automotive*, and *Aerospace*); this suggests that the null hypothesis that cities approach economic development similarly regardless of size is accepted. The *Automotive* sector, a traditional and historically dominant industry in Ontario, but which is struggling, was identified in five small-sized, four mid-sized and one large cities, indicating an overall limited focus on the sector despite its historic roots. The limited focus may be due to underlying competitive issues in the province along with global restructuring of major automobile firms. One exception that emerged in the analysis involves the association between *Forestry* and city size, producing a chi-square of 6.86, with nine small-sized cities, only two mid-sized cities and no large cities focusing on the sector.

In contrast, when geography is considered from a holistic perspective, the null hypothesis is rejected as there is a relationship between geography and policy (Table 7). For example, *Forestry* ( $\chi^2 = 22.61$ ), *Mining* ( $\chi^2 = 24.93$ ), *Food and Beverage* ( $\chi^2 = 16.84$ ), *Aerospace* ( $\chi^2 = 12.59$ ) and *Automotive* ( $\chi^2 = 15.51$ ) sectors showed statistically significant relationships when examined based on geographical distribution in the province. Conceptually this makes sense, as Ontario has and does not have a homogenous economy, but one with localized focuses of industries. For example, *Forestry* and *Mining* are concentrated in Northern Ontario, where these natural resources are concentrated. Therefore, unsurprisingly eight of nine cities in the north indicated continual investment into these sectors. Contrarily, the *Automotive* sector was most prominent in Southwestern Ontario and the GTA – despite being rarely identified in the province outside these regions, indicating the sector's core importance and potential future in these areas. This importance was alluded to in Vaughan's (2010, p. 31) strategy which discussed pairing the auto sector with the local composite material industries:

much of the demand in the U.S., and Canada, has been in the automotive. ... The automotive industry, a primary component of the advanced manufacturing landscape in Canada, but especially Ontario, is particularly drawn to composite materials based on the strength to weight advantages over other materials.

Finally, the *Food and Beverage* sector produced a chi-square of 16.84, with every region showing interest in the sector except for Northern Ontario, where climate and soil composition limits agricultural opportunity.

### Specific policy recommendations to mitigate manufacturing challenges

The content analysis reveals consistency of policy application, as approaches to mitigate manufacturing challenges were adopted at consistent rates across all sizes of cities resulting in low chi-square values being estimated (Table 8). For example, it was clear that most of cities are building their local economy to align with features of the new economy. Consistent with broad policy narratives on new economy, 42 of the 47 cities indicated that they wanted to pair local education institutions with local industry (Table 8). This is in line with the broader understanding of the regional economy of Ontario, which is characterized by an overall shift towards a knowledge-based economy (Vinodrai, 2015). This consistency in policy adoption across cities provides further support to policy convergence and homogenization that this study theorized was likely to occur.

Concerning the two notable exceptions based on the chi-square analysis, there were relationships between specific policy recommendations and city-size for *Diversify Economy in Areas with Predominantly Manufacturing* ( $\chi^2 = 8.09$ ) and *Using Existing Material Industry for Value Added Production* ( $\chi^2 = 5.99$ ). Economic diversification was a prominent policy recommendation in 20 of 23 small-sized, in approximately 60% of mid-sized cities and in one-third of large cities. Similarly, policy relating to value-added production was found in 12 of 23 small-sized, approximately one-third of mid-sized cities and with no large cities indicating this recommendation.

The geographical influence on policy adoption was demonstrated as there was less consistency of usage between regions than between city-size classifications (Table 9), for example, *Using Existing Material Industry for Value-Added Production* ( $\chi^2 = 15.76$ ) demonstrating a significant differentiation across regions. Northern Ontario showed a very strong relationship with increasing investment into its *Value-Added Production*, with eight of nine cities placing an emphasis on this policy. This was evident by Dryden document (2015, p. 33), as it prioritized the existing pulp industry for value-added biochemical products, stating: ‘there is some opportunity for Dryden to increase its share of biochemical manufacturing related to forestry, with five source countries and five source cities identified as possible targets’. Similar regional divergences were noted for *Partnering with Other Advanced Manufacturing Networks* ( $\chi^2 = 11.25$ ) and *Labour Retraining for Advanced Manufacturing* ( $\chi^2 = 11.72$ ). As noted in Table 9, there was broad consensus usage among the remaining policy recommendations, with approaches either suggested frequently (i. e., *Economic Diversification*) or were routinely ignored by the majority of cities (e.g., *Increased Public Perception*).

## DISCUSSION AND CONCLUSIONS

The results emerging from this study have found that manufacturing (particularly, advanced manufacturing) is held to be of great importance within contemporary local economic development planning and policy-making in Ontario. Indeed, cities demonstrated a wide array of perspectives in the ways that they are contextualizing manufacturing, understanding the issues related to manufacturing, and identifying economic sectors and specific policies meant to mitigate its decline and impact on local economies and development. There are several key issues that have emerged from this analysis. While there is a wide array of contexts, issues, and policies that have been identified within the local economic development documents, there is a lack of differentiation between cities. Across all four research areas – particularly when examined by population size – there is considerable similarity in the way cities approach manufacturing. This includes the same policies being constantly proposed, with others frequently ignored. This convergence of understanding and homogenization of approach is not surprising, as McCann and Ward (2011) and Cleave et al. (2019) have identified cities as part of network of policy migration, where unique approaches are rare. A key practical contribution of this study is the recommendation that local governments need to be measured and well informed in their policy-making to ensure that they are adequately addressing local issues, with solutions that are both realistic and likely to have a meaningful impact on their community. Current local economic development policy regarding manufacturing appears to be closer to fast policy (Cleave, Arku, Sadler, et al., 2017; Peck, 2002), rather than robust place-based policy (Bradford, 2010). This reliance on ‘off-the-shelf’ policy is the result of a thinning of local capacity and resources (Cleave, Arku, Sadler, et al., 2017), funding challenges (Arku, 2015) and the emergence of post-recession austerity measure (Brusca & Montesinos, 2016), coupled to broadly increasing pressures to address evolving local economies.

These challenges will have to be carefully addressed and overcome for meaningful policy to be developed. This need to recontextualize policy, planning and practice is important for several reasons. First, if cities are simply adopting widely held perspectives on the issues of manufacturing and the solutions to them, then they are missing out on the local nuances (history, geography, current local characteristics and conditions) that are necessary to develop solutions to the challenges that they face. Second, if all cities are adopting the same approaches, then the fierce competition surrounding traditional manufacturing that led to its decline will simply be transferred to another arena. Instead of potentially developing sustainable and resilient solutions for the local economy, cities will be engaging in another zero-sum competition for mobile economic

resources. And in that case, the largest cities are likely to have distinct advantages over smaller and peripheral communities.

An immediate, and important, contribution of this research is that geography is important and has emerged in the policy documents. In contrast to previous work (Arku, 2015; Cleave, Arku, & Chatwin, 2017, 2019; Reese & Sands, 2007), where city size was contextualized as the key factor driving local policy-making, this research demonstrates that location – in this case within the Province of Ontario – explains differences in the way manufacturing and economic development are viewed and planned, particularly in how manufacturing is contextualized and the potential sectors identified to mitigate its decline. This suggests that there is a nascent understanding of the need to be locally aware when developing policy. This still appears to be limited, as specific policies and perceived issues remain homogenized. This has broader implications for both scholarship and practice, as local governments need to be increasingly focused on their local or regional context, rather than engaging in the general and poorly tailored approaches to economic development policy-making that are currently occurring. Readjusting how they contextualize and respond to issues will provide a better opportunity for economic success compared with current practice. From an academic perspective, this research suggests there may be a spatiality to policy that requires greater investigation.

However, what is the current state of manufacturing and local economic development? Based on the content analysis of the local economic development planning documents, a constant theme that emerges is the transition from the manufacturing-based economy to a new, knowledge-based economy. This adds supporting empirical evidence to the conceptualization that Canadian cities are undergoing a transition from traditional sectors, which once were the backbone of Canadian cities, to an advanced manufacturing and service-based industry composition (Vinodrai, 2015). As an example, the City of Orillia (2008, p. 26) notes: ‘The ongoing loss of manufacturing jobs in Ontario is also an indicator of a sector that is both transitioning and transforming.’ Orillia is not alone, as 41 of the 47 cities contextualized manufacturing as part of a broader ‘transitioning economy’. Against this backdrop, it is evident in the policy documents that Ontario cities are changing their approach towards the attraction and retention of traditional manufacturing. It is obvious throughout the analysis that cities are not entirely giving up on manufacturing, but rather in both perception and practice the sector is still seen as an economic area that can be retooled and refocused to work in the present economic environment. This is supported by relevant policies being privileged by cities, including: pairing education and cultural institutes with local industry, using technology for local industry, partnering with other manufacturing networks, and using an existing industry for value-added production. These strategies all indicate that the transition to the new economy is one that policy-makers believe can be achieved from embracing policy changes that create an environment for advanced manufacturing.

The transition to the new economy is not without challenges. The large, more diversified cities have the broad economic base to withstand most impact from a failing traditional manufacturing sector. Within the economic development policy documents, there is concern with the ability of small and mid-sized cities to adapt and succeed within the new economic reality. Most evident were the challenges of an aging workforce and lack of resources from higher levels of government. For instance, the City of Cornwall (2016, p. 23) acknowledges this challenge, noting that ‘it is important to be aware of the issues around stagnation of population growth combined with an aging population’, and recommends the need ‘to keep the economy balanced and avoid reliance on large employers’. Both challenges were disproportionately experienced by the cities with declining populations and in peripheral regions of the province (Hall & Hall, 2008), with satellite cities in Ontario and other advanced economic regions increasingly losing out on human resources to the largest cities (Merrilees et al., 2013). This perspective is actualized in

City of Orillia's plan (2008, p. 26): 'while many communities are experiencing these trends and a corresponding downturn in their local economies, it is the smaller towns and cities that can feel this impact, more directly'.

Cities in the GTA based on the study's defined regions do not share the same issues of lack of resources or aging workforces. The diverse demographics in these regions, interconnected municipal networks, and their role as an electoral anchor for provincial and federal governments, makes it appear well suited for the emerging economy'. There was an interesting result as the GTA cities experiencing a challenge with lack of serviceable land for manufacturing. This was likely due to land restrictions such as the Greenbelt Act, 2005 and the increasing residential development of vacant land in the GTA to capitalize on the current market. Although the GTA has land-supply issues, cities in the region still identify advanced manufacturing as an important sector of their economy. Vaughan's plan (2010, p. 12) outlines the regional push for this type of manufacturing: 'In the GTA alone, 10 communities have targeted advanced manufacturing, as well as three regional municipalities.'

While manufacturing still makes up a significant portion of the Ontario economy (Statistics Canada, 2019), it is evident that traditional forms of manufacturing are becoming less of a priority for cities seeking increased development. The policies reflect the changing attitude to manufacturing, as only 45% (22 of 47) recommended specifically marketing towards manufacturing firms, which presents a stark contrast to seventy years of manufacturing history in the province, where cities and their officials were described as 'salesmen', whose primary duty was to recruit major manufacturing facilities (Taabazuizing et al., 2015). This contrast with 69% (33 of 47) of cities advocating for diversification of their economy in areas predominantly dominated by manufacturing. This provides insight as to the overall direction of the Ontario economy and the related planning surrounding it.

Smaller cities are engaging in economic diversification as well. Instead of conducting a radical economic transformation to respond to global changes, they are seeking to supplement their already existing industries to promote growth. Instead of switching to a completely knowledge-based economy, they are adopting aspects of it while retaining industry that has historically been a primary driver of their economy. Cities are building on existing strengths to reshape their economy offering the potential for resiliency against larger economic change. To illustrate, the Regional Municipality of Durham (2017, p. 13) notes the need for a diversified economy and supporting workforce: 'Businesses are increasingly seeking employees with digital, engineering, science and innovation skills rather than those who possess traditional manufacturing experience, and the occupational skills associated with these sectors.' This foresight for diversification was prescient, as in November 2018, GM announced its Oshawa plant and offices would be closing, causing 2800 jobs losses.

While this research has emphasized Ontario, the issues the province and its cities face are common within advanced economic markets. The lessons, therefore, that have been learned here are applicable both in Ontario but also more broadly. It is evident in both the literature and analysis of policy documents, that traditional manufacturing is no longer a policy focus for cities in the Western world. Even in peripheral regions, where small and mid-sized cities dominate, there has been an abandonment to the traditional strategies of aggressively trying to attract large industrial companies. Whether or not this holds true in the practical sense of economic development, requires further investigation, but alas, the guiding policies have left this practice behind. Rather these cities, which were so dependent on traditional manufacturing, have attempted to latch on to the new wave of creative and technology-led economies to make their city more competitive in the globalized economy. The transition is not one of complete overhaul or rebranding, rather it focuses on developing within the existing infrastructure and industry already present in the community.



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## DISCLOSURE STATEMENT

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## NOTE

<sup>1</sup> There has been some movement towards centralization of responsibility in the province since the 2009 recession, manifested in uploading of social benefit assistance programmes (Government of Ontario, 2017).

## ORCID

Evan Cleave  <http://orcid.org/0000-0002-9095-9535>

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