



KINGSTON ECONOMIC  
Development Corporation

# INTEGRATED ECONOMIC DEVELOPMENT STRATEGY

Kingston Economic Development  
and the City of Kingston

November 2020

STILETTO



# Executive Summary

**Kingston Economic Development Corporation and the City of Kingston have a bold vision – to create an Integrated Economic Development Strategy that will engage the Kingston business and residential communities.**

**By collaborating in new ways, aligning development strategies with post-secondary educational institutions, and bringing together key innovation ecosystem and community leaders, Kingston will accelerate a long-term sustainable growth agenda for all.**

With its many business and community assets, Kingston is constantly evolving. Kingston has benefited from its robust private-public economic base, strong educational and research institutions, an advantageous location, and the drive of its residents. These benefits have brought a high quality of life, an educated population, and a stable job market to the city. Kingston has a great foundation.

As Kingston evolves, so does the province, the country, and the globe. Kingston must prepare for advances in technology, innovation, and international trade that were not on the radar ten years ago. And the forces that drive this growth can be often competitive: export vs. local sustainability, entrepreneurs vs. established firms, downtown businesses vs. suburban firms. All stakeholders are crucial to the city's continued growth.

**Retaining and growing our workforce, helping our local business ecosystems grow in a sustainable fashion, and encouraging investment into the community will prepare Kingston for the future.**

This strategy outlines 35 specific recommended initiatives, along with proposed action plans and metrics for success. Executing this strategy requires deliberate cooperation and coordination in economic development strategies and initiatives. By intentionally bringing diverse stakeholders together, complex challenges can be thoroughly discussed, integrating Kingston's economic, environmental, social, and cultural values.

**The strategy is directed by two specific actions.**

As part of the Integrated Economic Development Strategy, the City of Kingston and Kingston Economic Development are introducing two fundamental shifts for the community: a fully integrated and collaborative community, and, a cluster approach for driving short- and long-term economic growth potential.

The cluster approach will focus multi-agency activities towards a common goal and use resources more effectively. Through this strategy, Kingston will focus on two main sectors – Health and Health Innovation and Sustainable Manufacturing. By positioning

these two clusters, Kingston will retain and grow its existing job base, facilitate ecosystems for companies to connect and collaborate, invest in strategic business infrastructure, support entrepreneurial activities, and encourage large-scale foreign direct investment. Specialized services will also be needed by these clusters in marketing, finance, law, packaging, hospitality, and other areas.

Kingston's economic development brand will be more effectively promoted, nationally and internationally, as a Canadian leader in these two sectors. All residents and businesses will have a role to play in moving towards this prosperous future.

**If clustering is addressed successfully, Kingston will benefit in many ways.**

Clusters normally include companies in the same industry that share infrastructure, suppliers, and distribution networks. Supply chains are then able to support the cluster more effectively within the geographic zone. Local post-secondary institutions provide the talent and research resources needed for applied research and development. From Silicon Valley (IT) to the Okanagan Valley (wine) and Toronto / Vancouver (film), clusters have brought together creative and innovative companies to make their communities prosper.

Launching the Integrated Economic Development Strategy serves as a rallying point for greater collaboration within Kingston and surrounding areas. It will support existing, new, and emerging businesses – and drive Kingston's long-term, sustainable economic prosperity.

Kingston Economic Development and the City of Kingston have a bold vision – to create an Integrated Economic Development Strategy that will engage the Kingston business and residential community.

By collaborating in new ways, aligning development strategies with post-secondary educational institutions, and bringing together key innovation ecosystem and community leaders, Kingston will accelerate a long-term, sustainable growth agenda for all.

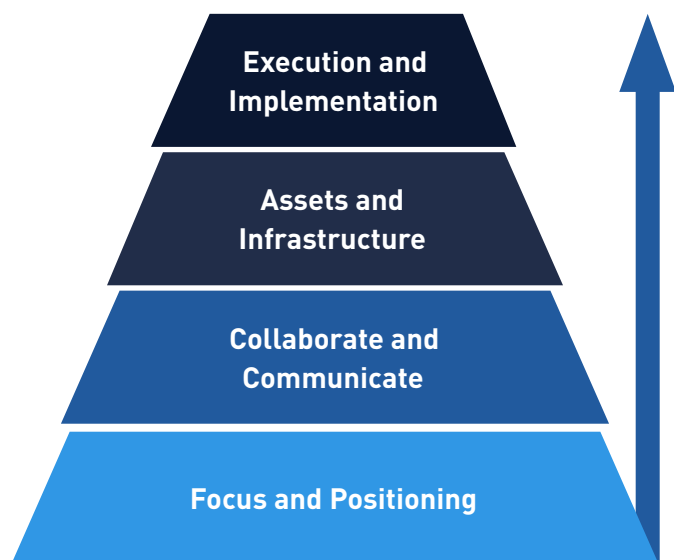
## The Strategy Framework

Based on the extensive market research and stakeholder consultation throughout the development of the Strategy (Appendix I), **four pillars, 13 themes, and 35 recommended initiatives have emerged.**

The four pillars are intended to build a foundation for economic growth in the City of Kingston. By first committing to a mandate of focus and positioning, each of the three subsequent pillars strategically grow business results for businesses of all stages, including start-ups, SMEs, business expansion, and investment attraction prospects (Figure 1).

The recommended initiatives are both strategic and tactical. They intend to serve as a guide to the City of Kingston and Kingston Economic Development to drive short- and long-term results for economic development for the City of Kingston. These recommended initiatives support community business growth and collaboration, start-ups and scale-ups, new investment attraction, workforce development, and foreign direct investment opportunities. Ultimately, they provide a path toward greater prosperity for Kingston business and citizens.

**Figure 1: The Economic Development Strategy foundation on four pillars**



The recommended initiatives are both strategic and tactical. They intend to serve as a guide to the City of Kingston and Kingston Economic Development to drive short- and long-term results for economic development for the City of Kingston.

**Figure 2: The four pillars and 13 themes**



**Figure 3: 13 themes and 35 recommended initiatives**



**Figure 3: 13 themes and 35 recommended initiatives (con't)**

**Foster and Support Growth in the Creative Industries**

- 20. Build a Creative Industries Narrative
- 21. Support Emerging Creative Industries
- 22. Offer Business Skills and Training
- 23. Facilitate Partnerships and Collaboration
- 24. Identify, Develop, and Make Available Sustainable Spaces and Places
- 25. Reinforce Diversity and Inclusion

**Mobilize Strategy Execution Team**

- 26. Establish a Strategy Execution Team
- 27. Establish Three Working Groups: Health and Health Innovation, Sustainable Manufacturing, and Creative Industries

**Reinforce Diversity and Inclusion**

- 28. Augment and Follow the Workforce Inclusion Charter
- 29. Support Social Procurement

**Build Workforce Capacity**

- 30. Employ a Talent Recruitment and Attraction Campaign
- 31. Build on Existing Programs to Create a Future of Work Track
- 32. Offer a Skills Development and Matchmaking Program
- 33. Augment Diversity and Inclusion Programming

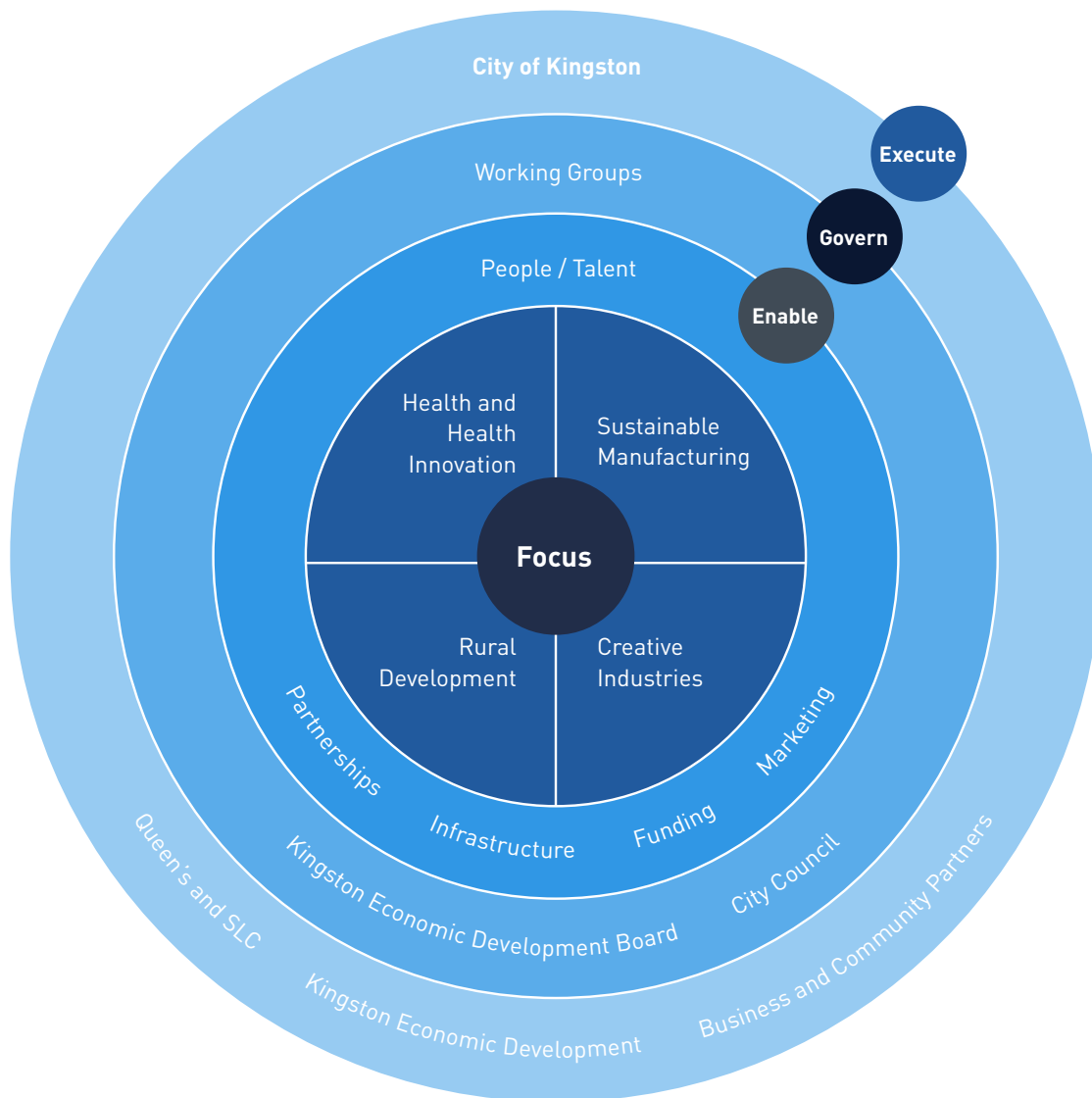
**Adopt Project Selection and Approval Process**

- 34. Create an Economic Opportunity Scorecard
- 35. Create a Future Development Scorecard

Executing on this strategy requires deliberate cooperation and coordination in economic development strategies and initiatives. By intentionally bringing diverse stakeholders together, complex challenges can be thoroughly discussed, integrating Kingston's economic, environmental, social and cultural values (Figure 4).



**Figure 4: Strategy execution framework**



The Integrated Economic Development Strategy provides details pertaining to overall strategy, the proposed clusters and recommended initiatives. Additional information pertaining to the background for the development of the strategy can be found in Appendix I. Further information pertaining to why an integrated strategy is needed is available in Appendix II. Details pertaining to the selection of the strategic clusters is available in Appendix III and IV.

Because of their importance, both Rural Development and the Creative Industries have been explored in detail with additional and extensive information provided in separate reports. The *Rural Kingston Economic Development Strategy: Mobilizing Opportunities for The Greater Kingston Region* report (October 2020) and the *Creative Industries, City of Kingston* report (October 2020) will be launched in the first quarter of 2021 and publicly available at that time.



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# Kingston's Unique Differentiators

## Access

Kingston has access to more than 14.5 million people in the Toronto-Ottawa-Montréal corridor. No other Canadian Census Metropolitan Area (CMA) has such a large population base within a three-hour radius.

## Tourism Volumes

Kingston has an exceptionally large domestic tourist market. No other CMA attracts more Canadian tourists than Kingston, relative to population size.

## Diverse Student Pool

Kingston has an ability to attract international post-secondary students in high volumes. It has the second largest number of international students among CMAs in Ontario.

## Highly Skilled Workforce

Kingston has one of the highest concentrations of PhDs in Canada.

# About the Integrated Economic Development Strategy

## VISION OF THE STRATEGY

Kingston is evolving to an advanced cluster-based economy. Through collaborative strategic economic development of two cutting-edge clusters – Health and Health Innovation and Sustainable Manufacturing – Kingston has the potential to become a global leader in these areas.

## MISSION OF THE STRATEGY

The mission for the Kingston Integrated Economic Development Strategy is to lay the foundation for strategies, tactics, and targeted activities. Achieving this mission will create a sustainable and thriving ecosystem to collaboratively support business growth, start-ups, investment attraction, and new foreign direct investment opportunities. The goal of the strategy is to position Kingston for short- and long-term sustainable economic development growth.

## TARGET OUTCOMES AND METRICS

1. Industry growth in the identified priority sectors within Kingston.
2. Clustered development in identified areas within Kingston.
3. A cohesive, collaborative development approach to align with the overall vision(s) for the City of Kingston and Kingston Economic Development.
4. Identification of short-term development opportunities that can drive immediate results for overall economic development for the region.
5. Identification of long-term development opportunities that can support the long-term economic development plan for Kingston.
6. Identification of short and long-term development opportunities to support residents and residential growth in Kingston.
7. Identification of short and long-term development opportunities to support business expansion, and potential investment attraction to Kingston.

The following metrics set the overall direction for program assessment. Review *Measuring Success* for a more detailed breakdown of metrics and timelines.

1. Supports and helps to retain existing businesses.
2. Offers business expansion potential.
3. Attracts investment.
4. Expands opportunities for research and development and innovation.

5. Supports diversity in entrepreneurship (e.g., newcomers / immigrant / women / Black, Indigenous, People of Colour (BIPOC) / LGBTQ2+ entrepreneurs).
6. Strengthens community engagement.
7. Leverages and builds infrastructure and assets.

## GUIDING STRATEGY DEVELOPMENT PRINCIPLES

Throughout the stakeholder consultations, a number of components emerged as consistent themes with a desire to transform Kingston’s economic performance. Highlights of recurring themes include:

- Build a cohesive and collaborative community.
- Increase cohesion and collaboration among partners.
- Create a strategic cluster to drive private-sector growth.
- Support the attraction, development, and growth of 40 net new high growth<sup>1</sup> companies during the next decade.
- Focus on short-term results but start to build foundation for long-term economy.
- Change the mindset in the community to embrace innovation.
- Build on community assets such as heritage, culture, and tourism.
- Where possible, incorporate a climate action agenda in strategies and tactics to help to reduce greenhouse gas (GHG) and the environmental impacts to drive a clean, responsible, and sustainable culture of innovation.
- Ensure diversity and inclusion in the community (cultural, gender and parity)

to continue to build upon the unique attribute of a welcoming and thriving community for personal and professional development for those in minority and under-represented groups.

## KEY INPUTS

The concept for the Kingston Integrated Economic Development Strategy incorporated the following essential inputs:

1. Identifying the unique community attributes.
2. Identifying core foundational elements to utilize:
  - a. Industry composition and business counts.
  - b. Workforce composition and strength.
  - c. Educational institutional performance.
  - d. Research activities and areas of strength.
3. Leveraging past performance in accepted community strengths.
4. Identifying potential areas of focus based on the potential to augment existing or emerging economic opportunities.
5. Ensuring alignment of focus areas with municipal priorities.
6. Ensuring alignment of focus areas with provincial and federal priorities.
7. Ensuring alignment with multi-stakeholder community activities.

The combination of these seven elements helped to formulate the themes and recommended initiatives of the Integrated Economic Development Strategy.

# Kingston at a Glance

Indicator	Geography	Data	Date
Population <sup>2</sup>	City of Kingston	123,789	2016
Population, forecast (2046) <sup>3</sup>	City of Kingston	180,300	2019
% of population aged 65 and older <sup>4</sup>	Kingston CMA	19.4% ↑ 20.4% from 2011	2016
Working age population <sup>5</sup>	Kingston CMA	110,000	2019
Total new jobs per year, forecast (2046) <sup>6</sup>	City of Kingston	363	2019
Total persons working from home, forecast (2046) <sup>7</sup>	City of Kingston	22.0%	2019
Median after-tax household income <sup>8</sup>	Kingston CMA	\$62,652 CAD	2015
Unemployment rate <sup>9</sup>	Kingston CMA	8.5%	October 2020
% of self-employed <sup>10</sup>	TBD	10.0%	2016
Total enrolment, Queen's University <sup>11</sup>	All campuses	25,560	2019
Total enrolment, St. Lawrence College <sup>12</sup>	All campuses	6,889	2018-19
Number of businesses <sup>13</sup>	TBD	4,500 ↑ 26.0% from 2014	2019
Total GDP <sup>14</sup>	Kingston CMA	\$9,027 million CAD	July 2020
GDP per capita <sup>15</sup>	Kingston CMA	\$72,922 CAD	July 2020
GDP forecast, 2020 (forecast April 2020) <sup>16</sup>	Kingston CMA	\$8,717 million CAD	July 2020
Average commute time	TBD	15 minutes	2018
Total value of building permits <sup>17</sup>	Kingston CMA	\$41.3 million CAD	September 2020
Total value of residential building permits <sup>18</sup>	Kingston CMA	\$27.5 million CAD	September 2020
Total of value of industrial building permits <sup>19</sup>	Kingston CMA	\$10 million CAD	September 2020
Total value of commercial building permits <sup>20</sup>	Kingston CMA	\$3.3 million CAD	September 2020
Average resale price of homes <sup>21</sup>	Defined by KAREA	\$491,156 CAD	September 2020
Residential rental vacancy rate <sup>22</sup>	Kingston CMA	1.9%	October 2019
Commercial vacancy rate <sup>23</sup>	City of Kingston	6.5%	2016
Buildings of 10 stories or more	Undefined	36	November 2020

The City of Kingston is located at the northeastern end of Lake Ontario, where the St. Lawrence River and the Cataraqui River meet. Kingston enjoys proximity to the major centres of Toronto, Montréal, and Ottawa, as well as easy access to northern New York state and Syracuse, the largest city in central New York state.

Kingston is a well-known tourism stop with a historic downtown and several major attractions, such as Fort Henry. As well, the Thousand Islands and Prince Edward County (50 kilometres west) are within driving distance.

The city is home to several correctional institutions and Canadian Forces Base (CFB) Kingston, one of the largest military bases in Canada. Large employers, such as INVISTA Canada Co., Novelis Inc., and DuPont Canada Co., have formed Kingston's industrial base, and serve as a foundation for other manufacturing clusters along the Toronto-Ottawa-Montréal corridor. As well, post-secondary institutions, including Queen's University, the Royal Military College of Canada, and St. Lawrence College, provide added economic stability and give the city a richer cultural life than found in many similar-sized cities.<sup>24</sup>

Kingston's highly rated quality of life, excellent health care, reasonable cost of living and reputation as a safe, clean, and walkable city have drawn many young families, retirees, and military veterans to Kingston.

## KINGSTON'S VALUE PROPOSITION

Kingston is in the heart of the Toronto-Ottawa-Montréal corridor. More than 14.5 million Canadians – or 40 per cent of the country's population – live within a three-hour drive from the city. In addition, thousands of US residents live just across the border. No other Canadian urban centre can claim the population area claimed by the Kingston CMA.

### WHAT DOES A 14.5 MILLION POPULATION CATCHMENT AREA MEAN?

Kingston is out of the commuting area for both Toronto and Montréal. In practical terms, Ottawa is out of commuting area as well, though hundreds of people do commute between Kingston to Ottawa daily.<sup>25</sup>

The Kingston CMA is an ideal location for industries that would benefit from being within a three-hour drive from 14.5 million people. Potential industries include:

- **Transportation and warehousing:** Kingston is located on Highway 401 – the main transportation link through the Toronto-Ottawa-Montréal corridor.
- **Tourism:** For companies looking to access such a large market, Kingston is well positioned as an easy drive for tourism activities, day tripping, weekends away, and longer vacations.

Communities globally that adopt a cluster strategy also pursue other initiatives to support a multi-faceted approach for economic development. The industries that

can leverage the Kingston market access advantage can serve as short- and medium-term economic opportunities outside of the cluster development (for Health and Health Innovation and Sustainable Manufacturing).

In addition, considering COVID-19 and the shift to remote working, Kingston is a viable alternative for the relocation of workers from Ottawa, the Greater Toronto Area, and Montréal searching for a better quality of life. Kingston is still a CMA, which allows for many “big city” amenities with the costs, conveniences, and character that a mid-sized municipality provides.

## STRENGTHS TO BUILD ON

Kingston has several unique and foundational strengths that can be mobilized to capitalize on rising opportunities.

### STRENGTHS

Within the city, Kingston benefits from strong economic leadership and existing cultural attractions. Kingston is intentionally fostering strengths in three priority sectors: food processing, health care, and manufacturing.<sup>26</sup> Pursuing sectors with a long-term, sustainable focus positions Kingston as a leading jurisdiction among its peers, fostering innovative ideas and attracting investment. Its strong sustainability focus is also an important asset: Kingston is the first Canadian city to adopt a protocol for sustainable energy procurement.<sup>27</sup>

Kingston is in an ideal position for future growth. High public sector employment (38.5%) combined with a large higher education

presence provides Kingston with a strong and stable economic workforce upon which to grow.<sup>28</sup> Historical sites, festivals, unique architecture, reliable transit systems, and a strong, well-established military presence make Kingston a destination worth visiting.

### OPPORTUNITIES

Kingston has an opportunity to leverage its strong start-up reputation to attract investment. Kingston was ranked ninth by StartupBlink (2020) as best start-up community in the world.<sup>29</sup> It was also ranked the Top Small-Size City in the Americas for foreign investment by the *Financial Times* (2017).<sup>30</sup> Building on this promotion to drive further growth is a time-sensitive opportunity.

In the recommended initiatives, the investment in a research and technology park has also been identified as an opportunity. Leveraging these initiatives will support growing sectors within the Kingston economy and boost long-term GDP. Additionally, Kingston’s active participation in regional initiatives and relevant provincial priorities (e.g., repatriation of Canadian companies) presents the city with an opportunity to tap into provincial and regional support to expand economic development efforts.

Kingston’s reputation for high quality of life and as a great retirement town presents another key opportunity. The pandemic has intensified the urban exodus for retirees or remote workers coming from the GTA and other large centres.<sup>31</sup> Kingston is in an ideal position to capture some of this market, and the economic benefits that come with it.

## COMPARATIVE ANALYSIS WITH PEER CANADIAN CITIES

A detailed analysis was conducted comparing Kingston with peer cities in Canada (note: cities were chosen based on an analysis of social and economic data such as population, income, and heritage focus). The analysis concludes that Kingston has a unique combination of the following elements in comparison with peer cities in Canada:

- Market access (proximity to more than 14.5 million people within a three-hour radius).
- Access to waterfront (for tourists, quality of life for residents).
- Access to harbour (for transport, sport tourism, leisure tourism / cruise ships).
- Proximity to US border (for export, tourism).
- Part of an economic trade corridor.
- Access to a military base.
- GDP growth greater than 10 per cent from 2012-16.
- Average commuting time (15 minutes) is much less than Canadian average (26 minutes).

Kingston has also been recognized nationally and internationally in various ranking studies:

- Ranked #1 in Top Cities in Canada to be a Woman – Canadian Centre for Policy Alternatives, Manitoba Office, 2019.<sup>32</sup>
- Ranked #1 for Best Small City FDI Strategy – FDI Communities of the Future, 2018.<sup>33</sup>
- Ranked #1 for Fastest Growth in Transit Ridership – Statistics Canada, 2017.<sup>34</sup>
- Ranked #4 Top City in Ontario for Millennials – Point2 Homes real estate portal, 2018.<sup>35</sup>
- Ranked #5 Top City to Buy Real Estate in Canada – *MoneySense* magazine, 2020.<sup>36</sup>
- Ranked #6 Small City for Human Capital and Lifestyle – FDI Communities of the Future, 2018.<sup>37</sup>
- Ranked #14 Best Community in Canada, 2019 – *Maclean's* magazine.<sup>38</sup>





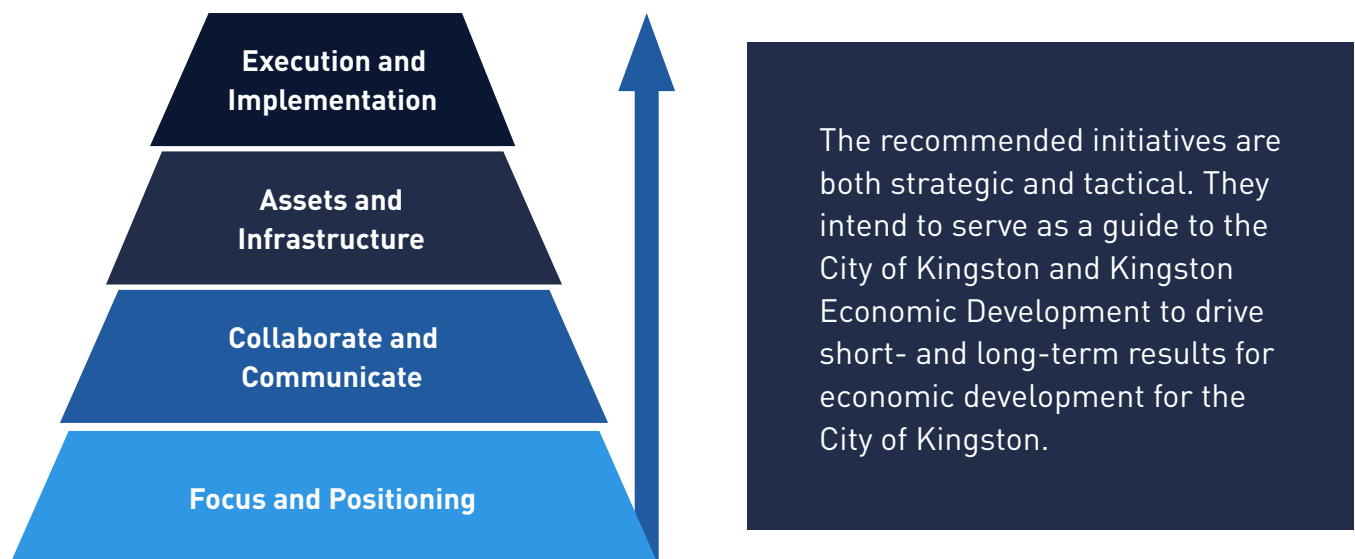
# Strategy Framework

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The four pillars are intended to build a foundation for economic growth in the City of Kingston. By first committing to a mandate of focus and positioning, each of the three subsequent pillars strategically grow business results for businesses of all stages, including start-ups, SMEs, business expansion, and investment attraction prospects (Figure 5).

The recommended initiatives are both strategic and tactical. They intend to serve as a guide to the City of Kingston and Kingston Economic Development to drive short- and long-term results for economic development for the City of Kingston. These recommended initiatives support community business growth and collaboration, start-ups and scale-ups, new investment attraction, workforce development, and foreign direct investment opportunities. Ultimately, they provide a path toward greater prosperity for Kingston business and citizens.

**Figure 5: The Economic Development Strategy foundation on four pillars**



**Figure 6: The four pillars and 13 themes**



**Figure 7: 13 themes and 35 recommended initiatives**



**Figure 7: 13 themes and 35 recommended initiatives (con't)**

### **Foster and Support Growth in the Creative Industries**

- 20. Build a Creative Industries Narrative
- 21. Support Emerging Creative Industries
- 22. Offer Business Skills and Training
- 23. Facilitate Partnerships and Collaboration
- 24. Identify, Develop, and Make Available Sustainable Spaces and Places
- 25. Reinforce Diversity and Inclusion

### **Mobilize Strategy Execution Team**

- 26. Establish a Strategy Execution Team
- 27. Establish Three Working Groups: Health and Health Innovation, Sustainable Manufacturing, and Creative Industries

### **Reinforce Diversity and Inclusion**

- 28. Augment and Follow the Workforce Inclusion Charter
- 29. Support Social Procurement

### **Build Workforce Capacity**

- 30. Employ a Talent Recruitment and Attraction Campaign
- 31. Build on Existing Programs to Create a Future of Work Track
- 32. Offer a Skills Development and Matchmaking Program
- 33. Augment Diversity and Inclusion Programming

### **Adopt Project Selection and Approval Process**

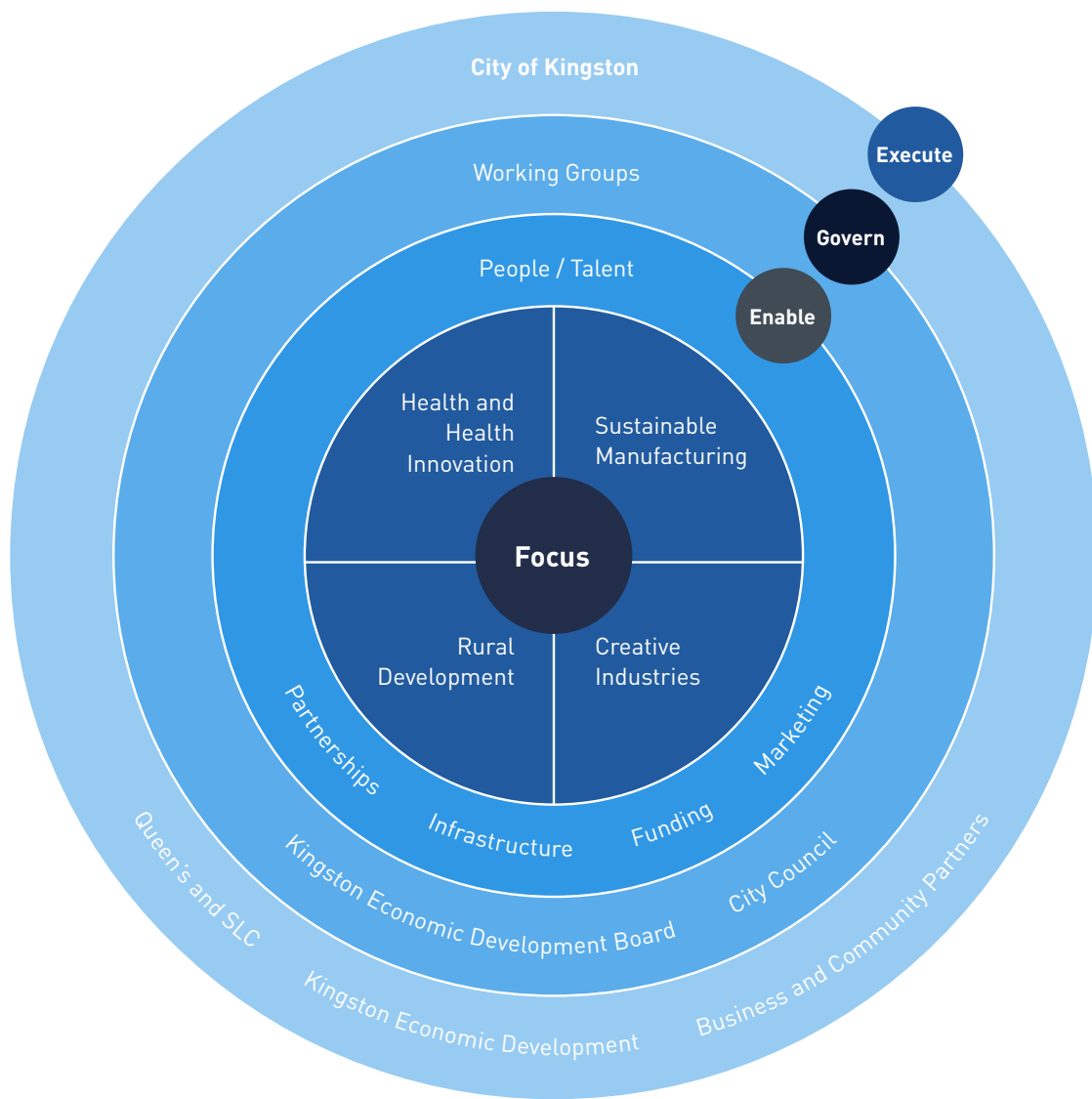
- 34. Create an Economic Opportunity Scorecard
- 35. Create a Future Development Scorecard



Executing this strategy requires deliberate cooperation and coordination in economic development strategies and initiatives. By intentionally bringing diverse stakeholders together, complex challenges can be thoroughly discussed, integrating Kingston's economic, environmental, social and cultural values.

From focus to enablement to governance and then execution, the pillars, themes, and recommended initiatives support at least one of each of these four components. Figure 8 provides an illustration of the execution of the strategy framework and how the pieces fit together.

**Figure 8: Strategy execution framework**



# Themes and Recommended Initiatives

## FOCUS AND POSITIONING

- Adopt Concept Framework
- Develop Two Strategic Clusters
- Leverage Market Access

## ASSETS AND INFRASTRUCTURE

- Leverage Community and Business Infrastructure
- Leverage the Economic Potential in Rural Kingston
- Foster and Support Growth in the Creative Industries

## COLLABORATION AND COMMUNICATION

- Enhance Partnership and Collaboration
- Enhance Cohesive Marketing and Communications
- Measure and Communicate Success

## EXECUTION AND IMPLEMENTATION

- Mobilize Strategy Execution Team
- Maximize Opportunities for Diversity and Inclusion
- Build Workforce Capacity
- Adopt Process Selection and Approval Process

## ADOPT CONCEPT FRAMEWORK

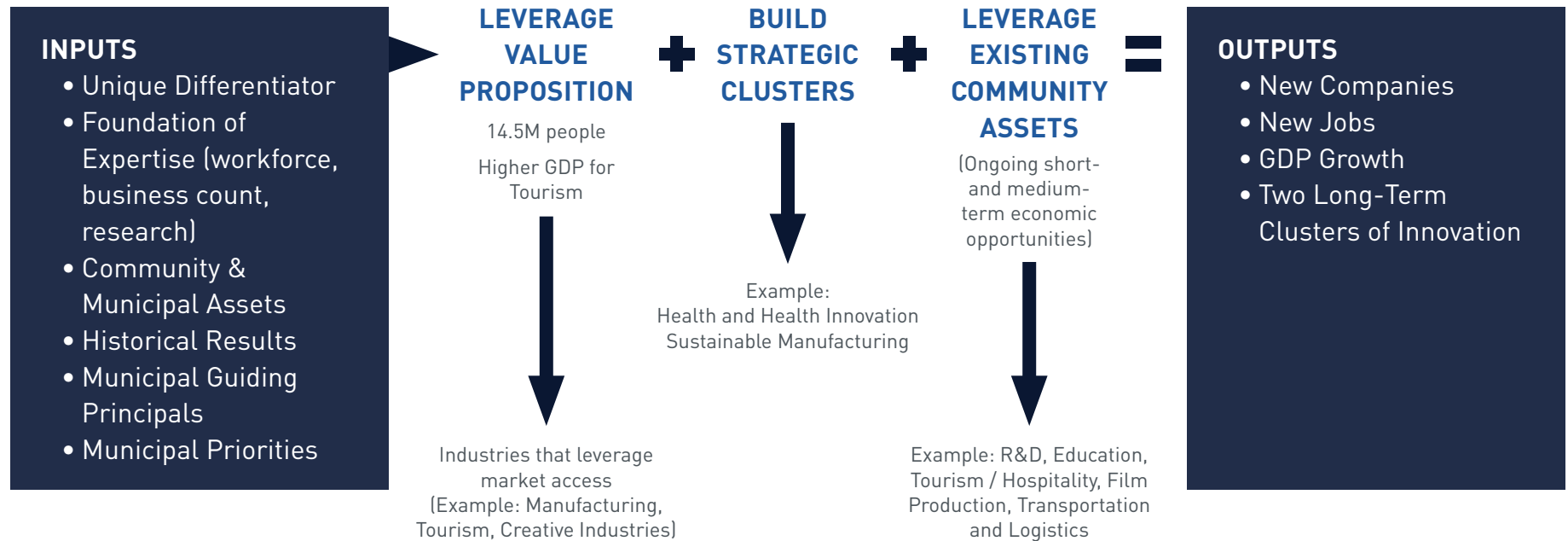
Collaboratively adopting a concept framework will provide the implementation team with a roadmap for acting upon proactive / reactive economic development opportunities. The goal is to follow an intentional rollout for the sequencing of economic development opportunities. Establishing timelines for cluster growth and subsectors where the large population catchment area can be leveraged will assist in managing expectations and driving both short- and long-term results.

This framework (Figure 9) is a visual depiction of everything discussed in the Integrated Economic Development Strategy. The overall concept for the Integrated Economic Development Strategy includes inputs,

strategy components, and outputs. Inputs are identified on the left-hand side of the figure, with activities in the centre, timelines at the top, and outputs to the right-hand side.

- **Inputs:** The primary components that will support proactive and reactive economic development opportunities.
- **Focus:** It is recommended the implementation team focus on: 1) Leveraging the Kingston Value Proposition, 2) Building Strategic Clusters and 3) Leveraging Existing Community Assets.
- **Outputs:** As a result of the inputs and focus areas, the goal is to drive results for new companies, new jobs, GDP growth, and cluster development.

**Figure 9: Concept Framework Roadmap for the Kingston Integrated Economic Development Strategy**



<b>TIMELINES / OUTCOMES</b>	<b>Kingston Economic Strategy</b>
	Immediate: Foundation Building Medium: Infrastructure Long Term: Clusters of Innovation

# FOCUS AND POSITIONING

Adopt Concept Framework	Develop Two Strategic Clusters	Leverage Market Access
<ul style="list-style-type: none"> <li>• Adopt an Integrated Long-term and Short-term Economic Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Develop Two Strategic Clusters</li> </ul>	<ul style="list-style-type: none"> <li>• Creative Industries Product Development</li> <li>• Remote Workers Campaign</li> </ul>

Through multi-level collaboration on common goals, a more focused approach to economic development can be realized. Sector clusters will provide new opportunities for innovative business development in terms of research, supply-chain integration, and investment. Clusters will create the ideal conditions for growing socially and environmentally responsible businesses and workforces. Clusters now are a competitive feature of virtually every forward-thinking national, regional, provincial, and municipal economy. The Focus and Positioning pillar includes three themes and four recommended initiatives (including the concept framework).

## Health and Health Innovation

- Health Data
- Healthy Aging
- Veterans Health

## Sustainable Manufacturing

- Material & Process Innovation
- Advanced Manufacturing
- Low-impact Food Processing

### DEVELOP TWO STRATEGIC CLUSTERS

**1. Recommended Initiative: Develop Two Strategic Clusters in Health and Health Innovation and Sustainable Manufacturing** (in partnership with the City of Kingston, Queen’s University, and St. Lawrence College): Align programming and new infrastructure investments to support the foundation needed to build these clusters during the next decade.

Strategic clusters allow companies to increase productivity by tapping into a clustered pool of specialized employees, existing resources, and shared knowledge. Cities who create strategic clusters benefit from this cooperation, improving the reputation of their town, attracting a skilled workforce, and developing industry



expertise within their borders.<sup>39</sup> Two areas have been identified as logical strategic clusters for the City of Kingston: health and health innovation and sustainable manufacturing. Selection of these clusters were chosen based on extensive data collection and analysis, existing community assets, industry profiles, and extensive stakeholder consultations. See Appendix II for additional information pertaining to the selection of the strategic clusters.

Health and health innovation was selected due its current industry strength in Kingston, and the potential growth it has within the city. The past five years (2014-19) in Kingston's health and health innovation sector have shown a strong workforce increase of 15.8 per cent, a business count increase of 13.3 per cent, and a GDP growth of \$370 million CAD.<sup>40, 41</sup> The health sector received 32 per cent of all research funding in Kingston in 2019, and is supported by an existing cluster of companies, a unique population, key researchers, and national health research networks.<sup>42</sup>

For the purpose of this strategy Sustainable Manufacturing is the combination of manufacturing assets and assets in sustainability. The manufacturing sector is growing in Kingston, with a workforce increase of 40.6 per cent, a business count increase of 8.5 per cent, and a GDP growth of \$74 million CAD between 2014 and 2019.<sup>43,44</sup> It is further supported by

an existing manufacturing cluster focused on production technology, research centres with applications in manufacturing, and local post-secondary educational institutions providing a direct talent pipeline through the offering of manufacturing degrees of interest.

Sustainability includes clean tech and green chemistry. Assets in Sustainability include GreenCentre Canada, Queen's Solar Calorimetry Lab, the Centre for Energy and Power Electronics, and the Sustainable Energy Applied Research Centre (at St. Lawrence College), to name a few. Research funding includes Nickel Catalysts for Electrochemical Clean Energy (NSERC), Photovoltaic Power Systems (Ontario Research Fund), and Oil and water repellent coatings for industrial applications (NSERC). The combination of these two sectors captures the high sector growth of manufacturing and the increasing focus on sustainable practices globally and locally.

## **LEVERAGE MARKET ACCESS**

There is an opportunity to leverage the tremendous market access Kingston has that no other CMA in Canada can claim: access to 14.5 million people within a three-hour radius. This amount represents 40 per cent of the Canadian population and significant market potential.

**2. Recommended Initiative: Focus on Creative Industries Product Development:** In partnership with Tourism Kingston, support new product development in the Creative Industries sector to leverage Kingston’s population catchment area. Product development may include new programs, services, amenities, and productions in the strategic priorities of film, music, and theatre for the Creative Industries Sector. The report “*Creative Industries Strategy, October 2020*” offers additional information pertaining to actions and activities within the Creative Industries.

develop a campaign to attract potential remote workers from nearby Urban Centres in Ottawa, Montréal, and the GTA to build population and potential workforce. A remote worker campaign may include marketing and promotional activities to companies currently in those markets to provide incentives and outline opportunities for hiring new team members from Kingston. These workers can remotely work for companies in the Urban Centres but consider Kingston as an option for residence. The outreach campaign can be done in partnership with the City of Kingston and Employment Ontario representatives.

**3. Recommended Initiative: Develop a Remote Workers Campaign:** In partnership with the City of Kingston,

## COLLABORATION AND COMMUNICATION

Enhance Partnership and Collaboration	Enhance Cohesive Marketing and Communications	Measure and Communicate Success
<ul style="list-style-type: none"> <li>• Enhance PSE Collaboration</li> <li>• Enhance Neighboring Community Collaboration</li> </ul>	<ul style="list-style-type: none"> <li>• Create a “Kingston Can” Campaign</li> <li>• Align all Kingston Brands</li> <li>• Consider Rebranding Kingston Economic Development</li> </ul>	<ul style="list-style-type: none"> <li>• Administer Proactive Progress Reporting</li> </ul>

Since the City of Kingston exists to serve the community's needs, recommended initiatives within this section focus on citizen and business experience. Kingston will actively market the community and provide a consistent message, positioning the city as a vibrant commercial hub and a destination for visitors, talent, and investment. Collaborations will bring complex initiatives to fruition. Transparent assessment and reporting on these initiatives will allow for iterative, continuous improvement. The Collaboration and Communication pillar includes three themes and six recommended initiatives.

## **ENHANCE PARTNERSHIP AND COLLABORATION**

Strategic partnerships and collaborations are recommended to create better linkages throughout the community. They will also expand the reach of the City of Kingston into nearby regions where alignment of programs, services, amenities, and infrastructure will be a win for all. Post-secondary educational institutions are critical and serve as a foundation of any economic development strategy for talent training, attraction, and retention.

### **1. Recommended Initiative: Enhance Post-Secondary Institution Collaboration:**

Develop a strategic alliance with Queen's University and St. Lawrence College (lead: City of Kingston, in partnership with Kingston Economic Development). Develop a strategic and tactical workplan to leverage these assets to support the cluster development potential. Opportunities for collaboration may include: 1) strategic cluster development, 2) skills and labour force development and

alignment, 3) joint funding applications (e.g., infrastructure, research, industry support), 4) target activities to retain graduates, and 5) identify programming to leverage PhD graduates and other highly educated student populations for the local workforce.

### **2. Recommended Initiative: Enhance Neighboring Community Collaboration:**

Enhance collaboration with neighboring communities such as Frontenac County and the Frontenac Islands, Lennox and Addington County, Leeds and Grenville United Counties, Prince Edward County, and other communities in the immediate and outlying areas within Eastern Ontario. Activities to advance regional alignment are currently underway with the Eastern Ontario Leadership Council, Eastern Ontario Wardens' Council, Ontario East Economic Development Commission, and St. Lawrence Corridor Economic Commission. The purpose in greater collaboration is to identify common goals, potential shared assets, and opportunities for joint economic and infrastructure development.

## **ENHANCE MARKETING AND COMMUNICATIONS**

Effective marketing and communications are critical components for telling the story of how Kingston is a great place to do business and to raise a family. Increased brand awareness, alignment, and clarity of messaging across all major economic organizations in the community will create synergies and a cohesive approach.

1. **Recommended Initiative: Create a “Kingston Can” Campaign:** Develop a twelve-month internal / external “Kingston Can” campaign featuring the benefits of living in Kingston, building a business in Kingston, and testimonials of businesses and people who are making a difference. The goal is to target both existing Kingston residents and potential in-migration (e.g., people, businesses). The campaign will be used locally to generate enthusiasm within the community and globally to demonstrate how Kingston is a place to do business. Local residents and businesses will also have a simple, memorable message to act as informal ambassadors for the city.
2. **Recommended Initiative: Align all Kingston Brands:** Develop joint messaging with the lead promotional agencies in the City of Kingston to ensure the Kingston Brand is aligned and positioned as an inclusive, sustainable, accessible community – one that focuses on sustainability in its policy and decision making and has a mandate for inclusion and diversity.
3. **Recommended Initiative: Consider Renaming Kingston Economic Development Corporation:** to “Invest Kingston” (or something akin to this phrase). Globally, more and more economic development agencies are including a “call to action” verb in the title of the organization. In Canada, organizations whose main mandate is investment attraction and identifying new and emerging economic opportunities use “Invest” or “Innovate” in the title of the organization, including “Invest in Canada,” “Invest Ottawa,” or “Innovate Calgary.” A change in the name of the economic

development organization may assist in building greater brand awareness that Kingston is ready for investment, innovation, and business. The intention of the Integrated Economic Development Strategy serves as a starting point and opportunity to shift the mindset both internally and externally to Kingston that Kingston is more than a public-sector city. A change in the name may also support any internal (to Kingston) historical affiliations from previous economic development administrations.

## MEASURE AND COMMUNICATE SUCCESS

Measuring and communicating success will help to build community confidence and a sense of pride in all Kingston businesses. Clear communication of milestones and metrics will build momentum and fuel the Kingston narrative for marketing and communications.

1. **Recommended Initiative: Administer Proactive Progress Reporting:** Build upon existing reporting systems in place between Kingston Economic Development and the City of Kingston. Provide proactive ongoing quarterly updates on the progress to the community at large. Showcase notable activities of companies in Kingston, offering testimonials of success stories. The goal is to build community confidence pertaining to progress and leadership for the City of Kingston and Kingston Economic Development.

# ASSETS AND INFRASTRUCTURE

Leverage Community and Business Infrastructure	Leverage the Economic Potential in Rural Kingston	Foster and Support Growth in the Creative Industries
<ul style="list-style-type: none"> <li>• Enhance Broadband Connectivity</li> <li>• Maintain Inventory and Access to Employment Land</li> <li>• Develop a Research and Technology Park</li> <li>• Build a Health Innovation Lab</li> <li>• Build a Sustainable Manufacturing Lab</li> </ul>	<ul style="list-style-type: none"> <li>• Support Agriculture Activities and Businesses</li> <li>• Plan Hamlet-led Development</li> <li>• Revitalize Tourism Opportunities</li> <li>• Develop Strategic Rural Business Clusters</li> </ul>	<ul style="list-style-type: none"> <li>• Set a Creative Industries Narrative</li> <li>• Support Emerging Creative Industries</li> <li>• Offer Business Skills and Training</li> <li>• Facilitate Partnerships and Collaboration</li> <li>• Identify, Develop, and Make Available Sustainable Spaces and Places</li> <li>• Reinforce Diversity and Inclusion</li> </ul>

Leveraging existing assets and business infrastructure and considering new strategic investments can support long-term economic development priorities to drive results and produce greater economic output. Funding sources through all levels of government are required to support potential business infrastructure requirements. Community and business infrastructure delivery will support advances for new and existing business initiatives. The Assets and Infrastructure pillar includes three themes and 15 recommended initiatives.

## LEVERAGE COMMUNITY AND BUSINESS INFRASTRUCTURE

Having the necessary community and business infrastructure in place will support recommended initiatives for the overall strategy and position the community for success.

1. **Recommended Initiative: Enhance Broadband Connectivity:** Ensure that access for remote work, remote health care and education, and international eCommerce can be achieved across the city boundaries. This connectivity will

impact any businesses involved with the Internet of Things, digital media, and / or eLearning. Access to broadband will increase service reliability, signal strength, bandwidth, and speed. The recent *Kingston Broadband Gap Analysis* (2020) estimated the value to society in providing broadband. With society moving to a “digital age,” equitable access to broadband connectivity is essential to provision of social services activities such as education, health care, and government services.<sup>45</sup>

2. **Recommended Initiative: Maintain Inventory and Access to Employment Lands:** Work in partnership with the City of Kingston and the private-sector to develop or make available development-ready plots of land. This initiative will maximize the potential of private lands and allow for proactive response to development opportunities through investment attraction, foreign direct investment, and business expansion. In addition, explore community improvement programs (CIP) for sector-specific opportunities.
3. **Recommended Initiative: Develop a Research and Technology Park:** Develop a research and technology park affiliated with Queen’s University. Successful research and technology parks in Canada typically have five collaborative partners: 1) the lead post-secondary institution, 2) the economic development organization, 3) the municipality, 4) the province, and 5) the federal government. The goal is to drive commercialization and private sector growth aligned with the institution’s research capacities and expertise. After a suitable site is selected /

serviced, a minimum initial development of 100,000 square feet is recommended that would include 20,000 square feet for an accelerator targeted to the strategic clusters. Sufficient land for future development is typically required (30 to 50 acres minimum).

4. **Recommended Initiative: Build a Health Innovation Lab** to be located at the Research and Technology Park: Identify funding to build lab facilities, including wet labs and standard equipment (approximately 5,000 to 10,000 square feet estimated to be \$5 to \$10 million CAD) to provide the necessary facilities to support health innovation in Kingston.
5. **Recommended Initiative: Build a Sustainable Manufacturing Lab** to be located at the Research and Technology Park: Identify funding to build a rapid prototyping lab to support growth in the manufacturing sector in Kingston (approximately 5,000 to 10,000 square feet estimated to be \$5 to \$10 million CAD).

## LEVERAGE THE ECONOMIC POTENTIAL IN RURAL KINGSTON

Many cities are encouraging the concentration of population and economic activity in the urban core. Reasons for this concentration are plentiful. Concentration can lead to lowering delivery costs for many public services, reducing a municipality’s environmental footprint, and generating other economic, social, and health benefits.<sup>46</sup> Most cities, however, do not have rural areas comparable to those within the City of Kingston. The significance of Kingston’s rural areas reflect their importance as a city asset. As such, Rural Kingston requires its own unique rural economic development strategy, and approach to intentional development.

In light of the particular importance of Rural Kingston to the City of Kingston as a strategic priority, a full strategic planning exercise was conducted for Rural Kingston. *For full discussion on this area, review the Rural Kingston Economic Development Strategy: Mobilizing Opportunities for The Greater Kingston Region report (October 2020). The following are the condensed recommended initiatives from the report.*

- 1. Recommended Initiative: Support Agriculture Activities and Businesses:** Consider leveraging or developing programs, initiatives, and funding that will attract new farmers, encourage local food consumption, and foster innovation in farming within the rural area.
- 2. Recommended Initiative: Plan Hamlet-led Development:** Pursuant to the City of Kingston Official Plan, target appropriate opportunities for hamlet-led development. Economic development opportunities in hamlets include scaled cluster development for residential, commercial and office spaces to support residents and businesses in rural Kingston. During the next Official Plan Update in 2023/2024, review economic development opportunities in hamlets to support residents and businesses in rural Kingston. This review should include opportunities to designate new lands for rural commercial and rural employment areas. Implement all necessary updates to both the Official Plan and zoning by-law.
- 3. Recommended Initiative: Revitalize Rural Tourism Opportunities:** Animate Rural Kingston tourism through the support and funding of various tourism activities (e.g., accommodations, adventure tourism experiences) and the pursuit of agri-tourism initiatives.

- 4. Recommended Initiative: Develop Strategic Rural Business Clusters:** Develop strategic clusters and explore industry-focused business park development within Rural Kingston. Explore the identified available land parcels of 50 or more acres within the area, with a focus on those with access to Kingston's Highway 401.

## **FOSTER AND SUPPORT GROWTH IN THE CREATIVE INDUSTRIES**

Globally, Creative Industries are recognized as key economic drivers. As of 2017, it was estimated that these combined industries generated \$12.2 billion CAD in GDP for Ontario's economy annually, and was number one in Canada by GDP.<sup>47</sup> The Government of Ontario reported that Creative Industries GDP "is now larger than Ontario's energy industry, is approaching 70 per cent of the auto manufacturing sector, and surpasses those of agriculture, forestry, and mining sectors combined."<sup>48</sup>

The City of Kingston recently recognized the importance of the Creative Industries sector as part of its Strategic Priorities for 2019-22 to strengthen the city's economic development opportunities and foster innovative arts, culture, and social enterprises. To support this Council Priority, the City of Kingston has completed a Creative Industries inventory, investigating how they can be better supported and expanded to develop the sector and enhance economic development opportunities.

In light of the particular importance of Creative Industries to the City of Kingston as a strategic priority, a full strategic planning exercise was conducted for the Creative Industries. *For full*

*discussion on this area, review the Creative Industries, City of Kingston addendum report (October 2020). The following are the condensed recommended initiatives from the report.*

- 1. Recommended Initiative: Set a Creative Industries Narrative:** Promote the reputation and strength of Kingston’s Creative Industries through new and existing marketing campaigns that tell the narrative of the Creative Industries. Identify campaigns to highlight the Creative Industries ecosystem, celebrate local creatives, and promote diverse cultures and histories.
- 2. Recommended Initiative: Support Emerging Creative Industries:** Support high-profile, high-potential emerging Creative Industries (Film, Music, Theatre). Create separate strategy and implementation plans for each sub-sector. Establish alignment on the emerging Creative Industries between the municipality, economic development, business agencies, and community partners / organizations.
- 3. Recommended Initiative: Offer Business Skills and Training:** Leverage available entrepreneurial and business-related training and support for Kingston creatives by identifying existing programming and funding. Build customized content that is specific to Creative Industries’ needs.
- 4. Recommended Initiative: Facilitate Partnership and Collaboration:** Promote partnerships and collaborations to champion Kingston as a “choice” location for Creative Industries. Establish a Creative Industries

Working Group with relevant cultural, business, academic, and municipal stakeholders, increase R&D by academic institutions, and establish collaborations with neighboring communities.

- 5. Recommended Initiative: Identify, Develop, and Make Available Sustainable Spaces and Places:** Identify and support affordable and accessible working and collaboration space in Kingston to build their network, encourage cross platform innovation, and safeguard resources. Re-animate or create greater awareness for existing spaces available.
- 6. Recommended Initiative: Reinforce Diversity and Inclusion:** Create greater diversity and inclusion within Kingston’s Creative Industries through the undertaking of targeted research related to systemic barriers for under-represented voices. Commit to diversity and inclusion goals within the sector.



# EXECUTION AND IMPLEMENTATION

## Mobilize a Strategy Execution Team

- Establish a Strategy Execution Team
- Establish Three Working Groups: Health Innovation, Sustainable Manufacturing and Creative Industries

## Maximize Opportunities for Diversity and Inclusion

- Augment the Workforce Inclusion Charter
- Support Social Procurement

## Build Workforce Capacity

- Employ Talent Recruitment and Attraction Campaign
- Build on Existing Programs to Create a Future of Work Track
- Offer a Skills Development and Matchmaking Program
- Develop Skills
- Augment Diversity and Inclusion Programming

## Adopt Project Selection and Approval Process

- Create an Economic Opportunity Scorecard
- Create a Future Development Scorecard

How can the city work better – more effectively and efficiently? The Execution and Implementation pillar recommended initiatives focus on improving and modernizing municipal workflows, streamlining processes, making a more inclusive community, and enhancing value. Successful attraction and retention of skilled and semi-skilled workers will be crucial to meeting Kingston’s employment needs, as well as and supporting the next generation of entrepreneur-led private sector companies. There are four themes and ten

recommended initiatives for the Execution and Implementation pillar.

### **MOBILIZE A STRATEGY EXECUTION TEAM**

Delivering on the recommended initiatives contained in this strategy requires a full community effort. A team approach led by the City of Kingston and Kingston Economic Development will ensure the necessary resources are in place to implement the recommended initiatives and drive results for the community.

**1. Recommended Initiative: Establish a Strategy Execution Team:** Develop an ongoing Strategy Execution team to manage and monitor the strategy and build collaboration among the partners. The Execution team is recommended to include:

- The CAO and Director of Strategy, Innovation & Partnerships from the City of Kingston;
- Chairperson and CEO of Kingston Economic Development;
- Champion from Queen’s University; and,
- Champion from St. Lawrence College.

**2. Recommended Initiative: Establish Three Working Groups:** Health and Health Innovation, Sustainable Manufacturing, and Creative Industries to support the implementation and execution of launching, building, and supporting these priority sectors. It is recommended each of the working groups have a maximum of ten representatives including: A member from Kingston Economic Development, a member from the City of Kingston, a member from Queen’s University, a member from St. Lawrence College, three private-sector companies, a member from the affiliated industry association, a member from FedDev Ontario, and a member from the Province of Ontario. The goal of the Working Groups is to assist in the preparation and execution of the action plans required to mobilize each of the priority and targeted cluster areas.

## MAXIMIZE OPPORTUNITIES FOR DIVERSITY AND INCLUSION

Diversity and inclusion are at the core of the values of the City of Kingston. Creating greater focus and opportunities for diversity and inclusion best practices in all aspects of economic development will help to

further position the City of Kingston as an ideal location to start and build a business. Building on the existing activities led by the City of Kingston, the following are the recommended initiatives to support diversity and inclusion.

- 1. Recommended Initiative: Augment the Workplace Inclusion Charter:** Support the Inclusive Workplaces Working Group in implementing their Workforce Inclusion Charter, which creates systems for employers of all sizes, service providers, and groups underrepresented in the labour market to work together on creating more inclusive work environments.
- 2. Recommended Initiative: Support Social Procurement:** Adopt policies to provide opportunities to underrepresented groups to access municipal procurement.

## BUILD WORKFORCE CAPACITY

Having the necessary workforce in place will help to support all growth businesses, from start-up to scale up to business expansion and retention. New investment attraction or foreign direct investment prospects also highly depend on the quality and quantity of available labour. Four initiatives are recommended to help build Kingston’s workforce capacity. Building on the existing activities led by the City of Kingston, the following are the recommended initiatives to support workforce development.

- 1. Recommended Initiative: Employ a Talent Recruitment and Attraction Campaign:** Augment existing City of Kingston and Employment Ontario initiatives for developing a talent attraction / recruitment campaign that includes components for supporting students, a

spousal support program, and diversity and inclusion program. Talent recruitment can also be a part of the remote worker campaign (recommended initiative #4 in the Focus and Positioning Pillar).

- 2. Recommended Initiative: Build on Existing Programs to Create a Future of Work Track:** In partnership with St. Lawrence College, Queen’s University, and the City of Kingston, consolidate current offerings to create a Future of Work Program. The program would include entrepreneurship, innovation, dealing with workplace generational shifts, and soft skills related to future employability (e.g., decision making skills, negotiation, emotional intelligence).
- 3. Recommended Initiative: Offer a Skills Development and Matchmaking Program:** In partnership with St. Lawrence College, Queen’s University, Employment Ontario, and the City of Kingston, conduct an inventory of the current skills required in the Kingston workforce, an assessment of the unemployed and / or underemployed, and develop a matchmaking system to connect employees with potential employers where skills are aligned. Based on the gap analysis, review existing programs available through post-secondary institutions to retrain (where applicable) workers to ensure appropriate alignment between employee skill competency and employer / private-sector needs. Consider the development of a locally based Skills Development and Retraining Program that will include retraining of existing workforce (especially in light of COVID-19), in trades and other skills required by local private-sector companies.

- 4. Recommended Initiative: Augment Diversity and Inclusion Programming:** In partnership with the City of Kingston and through the current Workforce Strategy, augment programming and toolkits to foster enhanced diversity and inclusion within Kingston industries.

## **ADOPT PROJECT SELECTION AND APPROVAL PROCESS**

Establishing a project selection and approval process will streamline efficiencies and create greater alignment between economic development opportunity identification and municipal proprieties and considerations.

- 1. Recommended Initiative: Create an Economic Opportunity Scorecard:** Adopt (Kingston Economic Development) a criteria selection scorecard for the evaluation of new and emerging economic opportunities (i.e., inbound and targeted foreign direct investment and business expansion and retention). This approach will help to prioritize inbound requests and focus on the required areas to support the overall strategic plan.
- 2. Recommended Initiative: Create a Future Development Scorecard:** Adopt (City of Kingston) a development selection scorecard managed by City Staff and adopted by City Council for future large-scale inbound investment and development opportunities (to be completed at the beginning of the development review process). This approach will help to streamline the approval process from end-to-end, creating better alignment between staff and Council.

# Measuring Success

With the push towards transparency and evidence-based decision-making, the following metrics can be considered to measure the progress and success of the overall strategy. Return on investment, optimization of resources, and citizen satisfaction levels should be reviewed regularly to comprehensively measure the success of this strategy.

To build community support, metrics must be manageable and timelines realistic to ensure the community can celebrate progress and success through the execution of the recommended initiatives. As a community-based strategy, success stories must also come from the community to support the combined efforts of both the strategy leads: The City of Kingston and Kingston Economic Development, and the community at large.

Overall, the main Integrated Economic Development Strategy metrics would track how the strategy:

1. Supports and helps to retain existing businesses;
2. Offers business expansion potential;
3. Attracts investment;
4. Expands opportunities for research and development and innovation;
5. Supports newcomers and immigrant entrepreneurs;
6. Strengthens community engagement; and,

7. Leverages and builds infrastructure and assets.

## QUARTERLY POTENTIAL TARGET METRICS

- Total inquiries into opportunities for economic development in Kingston in the identified target sectors.
- Total leads generated (for new company expansion and / or relocation potential) in the identified target sectors.
- Total active investment opportunities in the identified target sectors.
- New business permits.
- Funding dollars for plan development in the identified target sectors.
- Total programs and events delivered to support the identified target sectors.
- Total number of participants in events to support the identified target sectors.
- Total number of notable activities of Kingston companies (e.g., new market expansion, and case studies).

## ANNUAL POTENTIAL TARGET METRICS

- Total Gross Domestic Product (GDP) and by sector.
- Total Gross Domestic Product (GDP) performance in the identified target sectors.
- Total number of jobs created and maintained and by sector.
- Total number of jobs created and maintained in the identified target sectors.
- Total number of companies started and maintained and by sector.

- Total number of companies started and maintained in the identified target sectors.
- Total workforce year-to-year growth.
- Total business counts year-to-year growth.
- Total business counts year-to-year growth in the identified target sectors.
- Funding investment in the identified target sectors.

## TARGET TIMELINES FOR MEASURING SUCCESS

Note the annual progress update of activities to support target outcomes is also recommended. Time horizons of when potential impact may be visible is noted in Figure 10.

*Note: All quarterly statistics should be reported quarter-to-quarter (within year) and year-over-year. All annual statistics should be year-to-year and tracking long-term trends.*

**Figure 10: Targeted timelines for measuring impact of the pillars, themes and recommended initiatives, 2020-40**

Pillar	Theme	Today	In One Year	In Two Years	In Five Years	In 10 Years	In 20 Years
Focus and Prioritization	1. Adopt Concept Framework	•	•	•	•	•	•
	2. Develop Two Strategic Clusters	■			•	•	•
	3. Leverage Market Access	•	•	•	•	•	•
Collaboration and Communication	4. Enhance Partnership and Collaboration	•	•	•	•	•	•
	5. Enhance Marketing and Communications	■		•	•	•	•
	6. Measure and Communicate Success	■		•	•	•	•
Assets and Infrastructure	7. Leverage Community and Business Infrastructure	■		•	•	•	•
	8. Leverage Economic Potential in Rural Kingston	■		•	•	•	•
	9. Foster and Support Creative Industries	■		•	•	•	•
Execution and Implementation	10. Mobilize Strategy Execution Team	■		•	•	•	•
	11. Build Workforce Capacity	•	•	•	•	•	•
	12. Reinforce Diversity and Inclusion	■		•	•	•	•
	13. Adopt Project Selection and Approval Process	■		•	•	•	•

# For Consideration

A number of other strategic initiatives are underway in Kingston that support the overall goals and target outcomes of the Integrated Economic Development Strategy. While these components are not included in the strategy framework as part of the Integrated Strategy, it is important for the City of Kingston, Kingston Economic Development, and other key partners to consider these initiatives through the implementation phase of the Integrated Economic Development Strategy. These initiatives include but are not limited to:

- 1. Airport land development:** Continued discussions with the City of Kingston are recommended to maximize the potential use of the airport lands in supporting economic development opportunities.
- 2. Air service development:** In light of the COVID-19 pandemic, it is anticipated air service from Kingston may be an issue in the short- and medium-term. It is recommended Kingston Economic Development and the City of Kingston work closely with the airport authority to prepare options for air travel and access for Kingston residents and businesses.
- 3. Downtown development intensification:** Downtown intensification was underscored as an opportunity by developers in Kingston (with offices in Kingston and in other markets) throughout the engagement process. There is an interest and opportunity to maximize land use in the downtown core. Downtown intensification in markets of all sizes is a growing trend nationally and globally.
- 4. Downtown vibrancy:** Kingston offers an unparalleled experience in its downtown core. In light of COVID-19, maintaining the vibrancy of the downtown core should be a focus for the City of Kingston. The heritage, services, and amenities in the downtown core support many components within the overall Integrated Economic Development Strategy framework. Examples within the strategy that depend upon a lively and vital core include: leveraging market access, identifying short-term economic development potential, supporting and fostering Creative Industries, workforce reskilling, reinforcing diversity and inclusion, and aligning marketing and communications activities.

- 5. Climate action:** As existing businesses are redefined and new businesses emerge as a result of COVID-19, a climate action and sustainability lens should be included in assessing new and expanded business activities. Metrics can be considered for businesses to support the community efforts for greenhouse gas emission reduction, energy efficiencies, and employing practices to support greener process and production methods.
- 6. Housing Task Force and affordable housing:** Access to affordable housing will continue to be an important goal for the City of Kingston. As a result of the shift in the workforce due to COVID-19, a greater emphasis will be needed to ensure availability of housing, including affordable housing for vulnerable groups, is a top priority.

- 7. COVID response / recovery:** Activities and initiatives underway through the COVID response and recovery team continue to be required in the short-term. Recommended initiatives build on ongoing COVID-19 response and recovery efforts, including alignment of marketing and communications activities and identifying short-term economic development potential for new and existing businesses.
- 8. Transportation:** Public transportation and transportation infrastructure access is required to support the Integrated Economic Development Strategy. The City of Kingston continues to make advancements in both aspects of transportation access. This work is recommended to continue to support the long-term development approach for the community.



# Summary

In partnership with the City of Kingston and Kingston Economic Development, the City of Kingston is well positioned for sustainable economic growth. The framework created for this Integrated Economic Development Strategy provides a foundation to guide the community into the future. It will support a long-term vision with many opportunities for growth in the short-term:

- Focusing on cluster development will build on existing strengths at the government, industrial, and academic levels.
- Greater collaboration with post-secondary institutions and neighboring communities will make sure all stakeholders are focusing on the same goals to better support businesses and people in the community.
- New branding and messaging will strengthen Kingston's image to residents and non-residents, especially to those who could be interested in remote working or investment.
- Providing the necessary community and business infrastructure will support the growth and development of all businesses – from start-up, to scale-up and business and investment attraction.

- Maximizing opportunities for diverse and inclusive workplaces will further enhance Kingston's role as a national leader, offering equitable opportunities for all residents.

Critical to the success of the strategy and overall economic performance of Kingston is having the necessary workforce with the future-ready skills businesses need. Building workforce capacity will ensure businesses can prosper and people can be employed in high-growth, sustainable industries.

These components build the foundation needed for long-term, sustainable economic development, each one supporting the next. By working together as a community, this strategy, its recommended initiatives will be achievable for the benefit of all.

**The community is ready. Are you?**



# Appendix I: About the Development of the Strategy

## REPORT SCOPE

This report presents an Integrated Economic Development Strategy for the City of Kingston and Kingston Economic Development (2020-25). It articulates the community-based economic development vision of Kingston Economic Development and the City of Kingston. The goal of this strategy is to leverage Kingston's unique value proposition, competitive advantages, and strategic initiatives to position the city as an ideal location to live, work, and invest. This anchor strategy is intended to unify the positions of community members, stakeholders, businesses, and other strategic audiences.

## REPORT METHODOLOGY

As part of the extensive secondary data aggregation, a total of 172 internal reports were reviewed, along with the collection and analysis of more than 6,400 data points. Details pertaining to key market trends, impacted sectors, real estate data, strategy reports, and other substantive information have been considered in the formulation of the report's recommendations.

Conclusions were based on analysis of information at the time of report preparation and are subject to change with market

conditions. *The evolving nature of the COVID-19 pandemic made mid- to long-term forecasting a special challenge. To that end, baseline data (2019) and other available data (January 2020 to current) have been included and sourced to clearly date pre- and post-COVID information.*

## STAKEHOLDER CONSULTATIONS

The Kingston community was central in developing this strategy. A total of 53 meetings with 223 participants were held during the strategy's development. The meetings included input from 96 unique community-based participants, with various follow-up meetings to validate direction.

Discussions involved individuals from various industries including manufacturing, real estate, education, employment services, health, tourism, and digital media. The sessions evaluated Kingston economic health pre- and post- COVID-19 and discussed community gaps, opportunities, strengths, and challenges.

A survey was also developed and distributed through the Get Involved Kingston Public Engagement Platform, resulting in 375 responses from Kingston residents.

## Background

Kingston is the heart of the Toronto-Ottawa-Montréal corridor, the only census metropolitan area (CMA) in Canada with access to 40 per cent of the country's population within a three-hour driving radius. Along with these 14.5 million Canadians are hundreds of thousands of United States residents who live just across the border.

By leveraging this remarkable market access, Kingston is poised for substantial economic development success through strategic, intentional, and collaborative initiatives.

During the past year, the City of Kingston has partnered with the Kingston Economic Development Corporation to develop an Integrated Economic Development Strategy, incorporating the municipality's strategic priorities with those of the business community. This long-term Integrated Economic Development Strategy lays the foundation for Kingston to become a leader in the region, province, nation, and world.

Extensive stakeholder consultations took place throughout this engagement, including more than 50 discussions (interviews and focus groups) with more than 200 participants. Numerous online meetings were conducted with leaders at the City of Kingston and Kingston Economic Development throughout the project. And, through the Get Involved Kingston Engagement Platform, 375 local citizens shared opinions via an online survey.

Behind the scenes, more than 6,400 data points were collected and analyzed to confirm Kingston's core community assets, identify trends for workforce and business counts, and

forecast potential areas for sector growth. Through this research, two significant priority sectors for Kingston were identified – Health and Health Innovation and Sustainable Manufacturing. These two sectors have the existing industry and workforce strengths, as well as the long-term growth potential, to establish Kingston as a recognized leader nationwide.

Though these two sectors were identified as economic development priorities, there are also other secondary areas of special interest that require nurturing. Opportunities in the Creative Industries show great promise, especially in the emerging subsectors of film, music, and theatre. There also is much untapped potential throughout the Rural Kingston area for thoughtful development, especially in tourism, agriculture, and business infrastructure (including broadband).

Due to their importance to the City of Kingston, economic development opportunities in both Rural Kingston and the Creative Industries have been explored in detail, and are covered in separate documents.

*For full discussion on these areas, review the Rural Kingston Economic Development Strategy: Mobilizing Opportunities for The Greater Kingston Region report (October 2020) and the Creative Industries, City of Kingston report (October 2020).*

The proposed vision for Kingston is to become an national and international magnet for innovative companies, technologies, and people. This strategy will enable the city and business

community to achieve that vision. Despite the COVID-19 pandemic, this ambitious strategy ensures that the community is well positioned for long-term growth.

The Integrated Economic Development Strategy identifies four pillars, 13 themes, and 35 recommended initiatives for short-, medium-, and long-term success. Significant progress is already being made, thanks to collaborations between the City of Kingston, Kingston Economic Development, and post-secondary educational institutions.

Kingston's commitment to diversity, sustainability, cultural heritage, innovation, and collaboration have been woven into the various recommended initiatives and are fundamental drivers for the Integrated Economic Development Strategy. These values came through very strongly in all community discussions, reflecting how Kingston residents want their city to be recognized.

The success of this strategy is predicated on its implementation. As this plan has been developed as an integrated strategy between the City of Kingston and Kingston Economic Development Corporation, the plan's implementation requires that both entities work in close collaboration. Three working groups are recommended: two to lead the development of the Health and Health Innovation and Sustainable Manufacturing clusters, and one to support the emerging Creative Industries sector.

These working groups will require support from Kingston-area post-secondary educational institutions, industry associations, Tourism Kingston, not-for-profit organizations, and businesses. They will have the mandate to build and support economic development and will be the means to expedite the development process.



# Appendix II: Why an Integrated Economic Development Strategy is Needed

## A PRIORITY FOR THE CITY OF KINGSTON

The City of Kingston and its Council have set a vision to make Kingston a smart, livable, and leading city.<sup>49</sup> In Kingston's Strategic Plan 2019-22, five priorities were outlined to achieve this vision. Alignment between the priorities in Council's Strategic Plan and the Integrated Economic Development Strategy is of vital importance. Four of the five priorities in Kingston's Strategic Plan are directly reflected in this Integrated Economic Development Strategy. The fifth priority focuses on walkability, roads, and transportation, and is not addressed in this economic development strategy:

- 1. Demonstrate leadership on climate action:** Enhance and expand green spaces; protect wetlands; increase the tree canopy through greening initiatives.
- 2. Increase housing affordability:** Pursue development of all types of housing city-wide through intensification and land-use policies; advocate for funding and increased investments in housing development.
- 3. Strengthen economic development opportunities:** Support new and existing businesses; explore the feasibility of establishing rural business parks; invest in workforce development and immigration strategies.

- 4. Foster healthy citizens and vibrant spaces:** Support the potential for Indigenous cultural space; leverage and work with partners to promote food security solutions.<sup>50</sup>

## A PRIORITY FOR KINGSTON ECONOMIC DEVELOPMENT

Kingston Economic Development believes in the power of partnerships to bring about lasting change. They believe that enhancing economic capacity comes through building strong local, regional, and extra-regional partnerships and developing collaborative activities. Kingston Economic Development's work is contingent upon the strength of these partnerships, the effectiveness of relationships with city colleagues, and the support of industry / community leaders.

The 2015-20 Strategic Plan speaks volumes about the demonstrated commitment that Kingston Economic Development places on collaboration, with more than 90 active partnerships listed, from school boards to hospitals, associations to media.<sup>51</sup> Closer collaboration will further enhance workforce, housing, industry cluster development, and tourism activities. Expanding Kingston's existing and emerging networks will support the economic development strategy and Kingston's long-term potential.

## COLLABORATION BETWEEN THE CITY OF KINGSTON AND KINGSTON ECONOMIC DEVELOPMENT

In the past, separate strategies and initiatives from the City of Kingston and Kingston Economic Development did not fully maximize the combined resources, service delivery to businesses, and knowledge that exists between the two organizations.

Findings from primary research conducted for this strategy reflected a desire from stakeholders for a more collaborative and aligned relationship between the two organizations. Work has already begun to address this finding with the redefining of roles relating to workforce development and business support.

The Kingston Integrated Economic Development Strategy partners the City of Kingston and Kingston Economic Development in both its creation and implementation. The Integrated Economic Development Strategy ensures consistent and comprehensive direction from the two organizations, leveraging the resources and knowledge of both entities.

A comprehensive review of governance structures of comparable and aspirational jurisdictions supports this joint action. Findings from a SWOT analysis created for this report suggest that notable and aspirational cities use an external agency or corporation such as Kingston Economic Development in a management capacity.

## A SHIFT IN COMMUNITY MINDSET

The onset of COVID-19 has provided an interesting side benefit. As is seen throughout the world, such a disruptive event necessitated government, the not-for-profit sector, and industry working together to locate and produce necessary supplies, keep industries and businesses afloat, and safeguard the health of the population. That non-partisan collegiality emerged quickly at the federal, provincial, and local levels, and has affected Kingston as well.

Likewise, a new commitment to work collaboratively for a stronger economic future has been made by the City of Kingston, the Kingston Economic Development Corporation, the not-for-profit sector, post-secondary educational institutions, and the business community. Time, effort, and duplication will be reduced by jointly tackling economic development needs from their differing areas of expertise. This approach also brings new voices to the table, ensuring that strategies are practical, effective, and reflect community needs.

*As Responding to COVID 19: Report to Council (April 2020) stated, "Now is the time for collaboration across all aspects of our community, including economic, social, and cultural. Taking a united Team Kingston approach will help to streamline efficiencies and support businesses and community members that need it most."<sup>52</sup>*

## THE IMPACT OF COVID-19

COVID-19 is a global health crisis with profound social and economic consequences. IBISWorld market research recently reported that approximately 91.2 per cent of industries are expected to be moderately to highly impacted by the outbreak in Canada.<sup>53</sup>

All industries in Kingston will be affected in some way due to COVID-19. Specific initiatives were outlined in the *Responding to COVID 19: Report to Council* (April 2020). Impact intensity will be variable based on a variety of factors, including trade exposure with affected countries, supply chain exposure, and other business environment risks. A recent report from the World Economic Forum (October 2020) reported that “Automation, in tandem with the Covid-19 recession, is creating a ‘double disruption’ scenario for workers ... positions in growing demand include those in the green economy, roles at the forefront of data and artificial intelligence, as well as new jobs in engineering, cloud computing, and product development.”<sup>54</sup>

With this level of impact, the Kingston Integrated Economic Development Strategy is imperative to sustaining Kingston’s economy, industries, and businesses. The strategy report provides a baseline of Kingston industries and workforce, evidence-based recommendations focused on strategic growth, and community-based action plans that will collaboratively protect vulnerable industries and leverage COVID-19 opportunities.



# Appendix III: Selecting the Strategic Clusters

Prioritizing specific high-growth sectors will allow Kingston's economy to accelerate, becoming more robust, innovative, and competitive. Clusters will retain and grow the existing job base, facilitate ecosystems for companies to connect and collaborate, support entrepreneurial activities, and encourage large-scale foreign direct investment. It will also make greater use of existing city resources and ensure consistency in economic development strategy applications.

## CRITERIA

The following selection criteria were established to identify Kingston's key sectors:

- Share of total city employment (through workforce data).
- Business counts.
- Location quotients.<sup>55</sup>
- Research funding (federally and provincially) by sub-sector.
- Research infrastructure (e.g., laboratories).
- Research centers / institutes / networks.
- Participation of strategic stakeholders.
- Global demand.

Note: the opportunities / threats / impacts of COVID-19 have also been considered as part of the analysis.

**Based on this criteria, two high-growth sectors emerged and have been selected: Health and Health Innovation and Sustainable Manufacturing.**

### Health and Health Innovation

- Health Data
- Healthy Aging
- Veterans Health

### Sustainable Manufacturing

- Material & Process Innovation
- Advanced Manufacturing
- Low-impact Food Processing

# HEALTH AND HEALTH INNOVATION

Figure 11: Top data points for health and health innovation, Kingston

## INDUSTRY SNAPSHOT



Workforce increase of **15.8%**  
(2014-19)



Business count increase of **13.3%**  
(2014-19)



GDP of **\$1,234M CAD**, increase of **\$370M CAD**  
(2014-19)



Forecasted annual economic output (for every \$1.00 CAD output): **\$1.61 CAD**  
(2019-24)



Forecasted annual GDP growth: Increase of **\$194 million CAD** (or 16%)



Research funding: **\$159M CAD**  
(2014-19)

Health and Health Innovation includes all direct and indirect activities related to health and health innovation, from pharmaceutical manufacturing and health technologies to health-based artificial intelligence supports and robotics. A selected list of NAICS codes in this area is available in Appendix A.

## SECTOR STRENGTHS TO BUILD ON

- 1. A vibrant health-related research network (national health networks):** Several national health research networks are headquartered in Kingston, including the Canadian Cancer Trials Group; the Canadian Primary Care Sentinel Surveillance Network; the Canadian Frailty Network; and the Canadian Institute for Military and Veterans Health Research.<sup>56</sup>
- 2. A favorable health-related research funding climate:** Government-based health research funding is the top funded sector with approximately \$159 million CAD (32%) of funding received locally. A portion of research funding is directed to national health networks, however, and these funds do not necessarily remain in the city.<sup>57</sup>
- 3. A significant hub for health-related research:** In Kingston, there are 14 Canada Research Chairs worth nearly \$12 million CAD established during the last five years; other research institutes include: Centre for Neuroscience Studies, Centre for Studies in Primary Care, Health Services and Policy Research Institute, and the Translational Institute of Medicine.<sup>58</sup>
- 4. A varied local talent pipeline:** Local post-secondary educational institutions offer diploma, undergraduate, and / or graduate programs, educating talent in a variety of fields from nurse aides and personal support workers to researchers in health-related artificial intelligence. Selected programs show prowess in these areas, including those from Queen's (e.g., combined MD / PhD and MD / Master's programs, Master's of Management Analytics, first fully online Bachelor of Health Sciences), and St. Lawrence College (e.g., Diplomas in Business Analytics and Health Information Management, Bachelors of Science in Nursing).<sup>59</sup>



5. **A burgeoning cluster of companies to build upon:** Commercial-ready technologies and growth-oriented companies, a sample of which include Spectra Plasmonics, Octane / Lonza, D2 Innovations, Kinarm, Kings Distributed Systems (KDS), and Limestone Analytics.<sup>60</sup>
6. **Strong alignment with existing City of Kingston plans:** This cluster is well aligned with the Kingston City Council 2019-22 Strategic Plan<sup>61</sup> and with a City of Kingston FedDev Ontario proposal (\$3 million CAD across a three-year period for local industry).
7. **A unique population base makes Kingston an attractive Living Lab for health innovation:** This asset leverages Kingston’s demographics, including a significant rural component, underserved Indigenous communities, a local prison system, one of the largest staffed military bases in Canada, and a rapidly aging populace.<sup>62</sup>

### PROPOSED SUB-SECTORS

Kingston’s Health and Health Innovation ecosystem will grow by focusing on strengthening activities along the Innovation Continuum and focusing on sub-sectors that present opportunity for economic growth and differentiation in innovation. The Kingston’s Health Innovation Continuum (Figure 4) indicates areas of strength (green), and areas of weakness (red).

Kingston has a strong Health Care and Social Assistance as a service sector (NAICS 62) and has opportunity to distinguish itself in Health Innovation with a focus in the following sub-sectors.

**WHAT’S NEEDED**

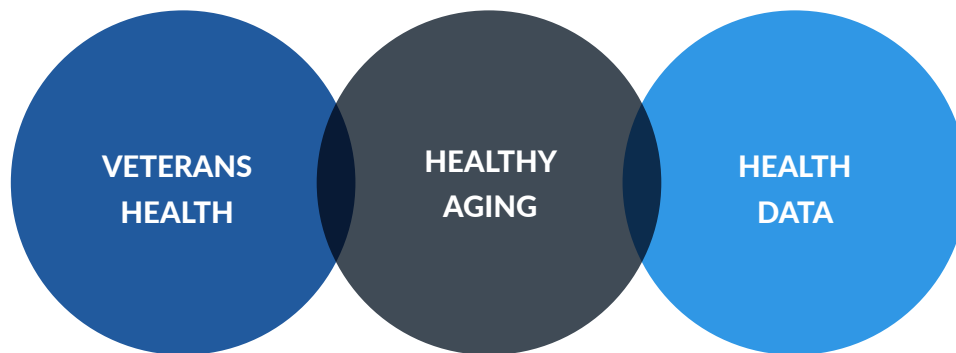
**Integrated Coordination:** There is a need for increased coordination among strategies, services, and supports throughout Eastern Ontario, including within Kingston’s Health and Health Innovation ecosystem.

**Commercialization Space:** Dedicated space(s) will encourage business creation / retention for health and health innovation and provide a place for academia and industry to collide.

**Figure 12: Kingston’s health and health innovation continuum**



**Figure 13: Snapshot of proposed sub-sectors, health and health innovation**



**VETERANS HEALTH**

- ✓ Centre of excellence in **veterans' health research**
- ✓ 2<sup>nd</sup> highest location quotient value for **defence industry employment** in Canada
- ✓ Significant sector nationally (**\$631M CAD**) and globally (**\$94.5B USD** in the US alone)
- ✓ 639,900 veterans in Canada (with other veteran-specific markets globally) – **potential for export**

**HEALTHY AGING**

- ✓ Canadian Frailty Network & Human Mobility Research Centre
- ✓ 2<sup>nd</sup> highest location quotient value for **health care** in Ontario
- ✓ Expected increase of **three million more people aged 65 or greater in Ontario** within next 10 years
- ✓ Economic opportunity in **primary care solutions and distinguisher** on innovation front

**HEALTH DATA**

- ✓ Budding health data sub-sector
- ✓ Investments expected to increase during the next decade (CAGR for AI in health care forecasted at **41.5 per cent** to 2025)
- ✓ **Aligned with** City of Kingston and FedDev Ontario application for funding support

**Veterans' Health:** This sub-sector enjoys the second highest location quotient<sup>63</sup> value (LQ=7.96) for defence industry employment in Canada. Veterans' health is significant both nationally (\$621 million CAD in 2019),<sup>64</sup> and globally (\$94.5 billion USD in the US alone).<sup>65</sup>

There is a large global marketplace, with more than 639,900 veterans in Canada,<sup>66</sup> and many thousands of retired military personnel internationally. Other market drivers that are hastening growth include:

- The much higher than average health needs of the Canadian veteran population in the areas of back problems, arthritis, depression, and anxiety;<sup>67</sup>

- The rising prevalence of PTSD, military sexual abuse, traumatic brain injury, homelessness, suicide, and substance abuse amongst deployed and retired personnel in disproportionate rates compared to civilians;<sup>68</sup>
- The increase in applying research and treatments to a wider audience base, including first responders, police, firefighters, paramedics, and humanitarian workers; and,
- The increase in rehabilitation programs for injured military personnel.

Kingston currently benefits from the Canadian Institute for Military and Veteran Health Research (CIMVHR) at Queen’s University, which was awarded \$25 million CAD from Veterans Affairs Canada (2019).<sup>69</sup> Since 2010, CIMVHR has built a collaborative network of “46 Canadian universities who have agreed to work together to address the health research requirements of the Canadian military, veterans, and their families.”<sup>70</sup>

**Healthy Aging:** Kingston has a large senior population and could become a leader in the new silver economy. It is estimated that Ontario will support an additional three million more people aged 65 and older within the next 10 years. The city has the second highest location quotient<sup>71</sup> value (LQ=1.43) for health care in Ontario and provides Kingston with significant economic growth opportunities in the primary care services.

Market drivers that are spurring growth include:

- The rise in telehealth adoption, especially for homebound or rural seniors;<sup>72</sup>
- The increased demand in patient-centric home health care services, and in long-term care in general;<sup>73</sup>
- A greater acknowledgement of the specialized health needs of seniors from different races / ethnicities / cultures;<sup>74</sup>
- The growing prevalence of patients with chronic disease / pain, debilitating illness, and amongst seniors as they live longer lives; and,<sup>75</sup>
- A lack of health care professionals specialized in elder care / gerontology in general.<sup>76</sup>

Local assets that can be leveraged include the Canadian Frailty Network and the Human Mobility Research Centre at Queen’s University.<sup>77, 78</sup>

**Health Data:** Kingston has a nascent health data sector and significant competition from other jurisdictions. Grand View Research estimates that “the global artificial intelligence in health care market size is valued at USD 2.5 billion in 2018 and is expected to grow at a compound annual growth rate (CAGR) of 41.5 per cent from 2019 to 2025.”<sup>79</sup>

Market drivers that are stimulating growth include:

- The continuous pressure on lowering overall health care costs;
- The growing importance of big data analytics and complex datasets in health care;<sup>80</sup>
- The rising adoption of precision medicine (understanding genetic makeup at a population / individual level to customize a drug that targets a particular gene type, especially in cancer patients);
- The use of next generation sequencing (DNA sequencing technology) and biomarkers to increase early diagnosis rates; and,<sup>81</sup>
- The vastly increased computing power available for lower costs.<sup>82</sup>

Kingston can build on recent success (such as local business Kings Distributed Systems “Looking Glass” supercluster COVID-19 tracing project)<sup>83</sup> to attract attention and promote this sub-sector’s growth.

## SECTOR PERFORMANCE

The following data reveal that this sector is growing in Kingston (through business count) and is moderately labour intensive (through workforce). As a primarily service industry, it generates substantial outputs and GDP locally. In Kingston, the Health and Health Innovation sector enjoys the largest share of Ontario GDP.

**Figure 14: Key indicators, health and social assistance sector, NAICS 62, Kingston CMA, various dates**

Indicator	Amount	Date
Workforce (percentage)	↑ 15.8% <sup>84</sup>	2014-19
Workforce (number of employees)	↑ 1,388 <sup>85</sup>	2014-19
Business counts (percentage)	↑ 13.3% <sup>86</sup>	2014-19
Business counts (number of firms)	↑ 83 <sup>87</sup>	2014-19
GDP	\$1,234 million CAD*	2019
GDP as percentage of Ontario's GDP	2.4%*	2019
GDP growth (percentage)	↑ 30%*	2014-19
GDP growth (dollars)	↑ \$370 million CAD*	2014-19
Forecasted annual economic output of sector	\$1.61 CAD*	2019
Forecasted annual GDP for every \$1 CAD input	\$1.12 CAD*	2019
Research funding dedicated to this sector (PSE institutions, primarily Queen's)	Approximately \$150 million CAD <sup>88</sup>	2014-19

\* 1. The multipliers are province wide. For most sectors, the bulk of GDP, labour income, and job impacts would accrue in the CMA area.  
2. Jobs are shown as full-time equivalent (FTE). They are shown per \$1 million CAD in sector output.

Kingston CMA real GDP (2012), 2014-19 trend and 2019-24 forecast – Conference Board of Canada. The Board does not provide estimates for NAICS 11 Agriculture, forestry, fishing, 21 Mining, quarrying, and oil and gas extraction or 22 Utilities – only an aggregate estimate for primary industries and utilities combined. The Board also combines NAICS 52 Finance and insurance, 53 Real estate, Rental and leasing and 56 Administrative and support into an aggregate estimate.

Ontario real GDP (2012) and 2014-19 trend – Statistics Canada Table 36-10-0402-01.

Economic output multipliers - Statistics Canada Table 36-10-0113-01, except tax multipliers. Tax multipliers (relative to GDP) developed by Jupia Consultants Inc based on Statistics Canada's Survey of Household Spending, income tax by quintile, and indirect tax multipliers as well as HST estimates for 2019.

# SUSTAINABLE MANUFACTURING

Figure 15: Top data points for sustainable manufacturing, Kingston

## INDUSTRY SNAPSHOT



Workforce increase  
of **40.6%**  
(2014-19)



Business count increase  
of **8.5%**  
(2014-19)



GDP of **\$494M CAD**,  
increase of **\$74M CAD**  
(2014-19)



Forecasted annual  
economic output (for every  
\$1.00 CAD output):  
**\$1.63 CAD**  
(2019-24)



Forecasted annual GDP  
growth: Increase of **\$38  
million CAD** (or 8%)



Research funding:  
**\$71M CAD**  
(2014-19)

In general, there is no common definition of sustainable manufacturing. The US Department of Commerce's Sustainable Manufacturing Initiative sums it up as: "the creation of manufactured products that use processes that minimize negative environmental impacts, conserve energy and natural resources, are safe for employees, communities, and consumers and are economically sound."<sup>89</sup> For the purposes of this report, the Sustainable Manufacturing sector includes all direct and indirect activities related to green manufacturing innovation, from resource reduction (water / energy / waste) and emissions reduction to advanced product design and sustainable product materials and processes. A selected list of NAICS codes in this area is available in Appendix A.

The Sustainable Manufacturing cluster further extends the advances made with the [Sustainable Kingston Plan](#) into the economic development realm. According to the Organisation for Economic Co-operation and Development (OECD), "many businesses have already started to take important steps towards green growth –

ensuring their development is economically and environmentally sustainable. Their pioneering experiences largely show that environmental improvements go hand in hand with profit-making and improved competitiveness. However, many small- and medium-sized businesses (SMEs), that account for approximately 99 percent of all enterprises and two-thirds of employment across the Organisation for Economic Co-operation and Development, have not yet embraced these great opportunities."<sup>90</sup>

## SECTOR STRENGTHS TO BUILD ON

**1. An existing manufacturing cluster:** A total of 128 Kingston-based companies are involved in industries such as production technology / heavy machinery, and upstream metal manufacturing.<sup>91</sup> More than 3,400 employees currently work in the sector, a whopping 40.6 per cent increase from 2014. Examples of manufacturing companies include: INVISTA Canada Co. (nylon, spandex, and polyester industries), Pure Ingenuity Inc. (designs / manufactures custom process equipment for the food, pharmaceutical, cosmetics, and

fine chemical sectors), Novelis (rolled aluminum products and recycling), and Transformix Engineering Inc. which was recently purchased by ATS Automation Tooling Systems Inc.<sup>92</sup>

2. **A rebounding industry:** Though the industry had previously declined locally, it has rallied during the past four years, “with output advancing at a robust average annual pace of 3.1 per cent, including an eight-year-high gain of 4.1 per cent in 2018.”<sup>93</sup>
3. **A dedication to research excellence:** Research centres with applications in manufacturing include the Ingenuity Labs Research Institute (Queen’s University), the Reactor Materials Testing Laboratory (Queen’s University), the new Institute for Disruptive Technologies (Queen’s University), and the Robotics Laboratory (RMCC). Queen’s University also has research excellence in materials, computational analytics, and human-machine interactions.<sup>94</sup> There are several Canada Research Chairs, specifically in material sciences.
4. **A varied local talent pipeline:** Manufacturing degrees of interest include mechanical and materials engineering, computer science, and computer engineering.<sup>95</sup> Local college-level diplomas, apprenticeships, and other skilled trades training augment the local workforce in full- and part-time programs. Selected programs show specific program strengths in these areas, including those from Queen’s University (e.g., Master’s in Applied Sustainability, Bachelor’s in Megatronics and Robotics) and St. Lawrence College (e.g., Diplomas in Instrumentation and Control Engineering, Computer Systems, Supply Chain Management).

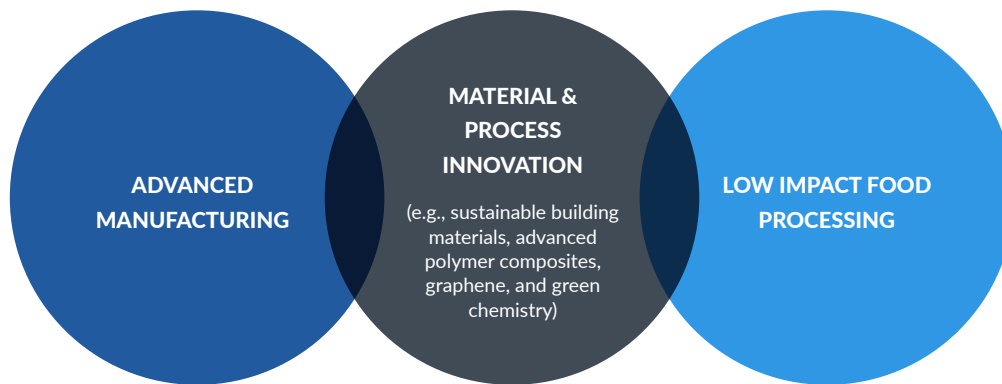
## PROPOSED SUB-SECTORS

Manufacturing accounts for 48.6 per cent of all Eastern Ontario exports. It is important to continue supporting the sector while nurturing niche sub-sectors of strength.

### GROWTH OPPORTUNITIES

1. Identify partnerships and collaboration for material manufacturing.
2. Create a defined investment attraction campaign to target marketplace potential.
3. Facilitate collaboration between identified key manufacturing subsectors to create a local value chain.
4. Collaborate on FDI efforts with local industry to strengthen relationships and create new partnerships in the region.
5. Support local manufacturing industry in adopting more sustainable practices by connecting them with talent, service, and information.

**Figure 16: Snapshot of proposed sub-sectors, sustainable manufacturing**



**ADVANCED MANUFACTURING**

- ✓ Kingston has several areas of strength such as in **chemicals and primary metals**
- ✓ Local industry has expressed interest in additional **collaboration and partnerships**
- ✓ If this sector keeps a growth rate of three per cent annually, it will generate approximately **1,000 new jobs** and **\$200M CAD in GDP** by 2030

**MATERIAL & PROCESS INNOVATION**

- ✓ Kingston has strong academic **research capacity and expertise**
- ✓ Existing base of firms in this sub-sector
- ✓ Opportunity for innovation in **Sustainable building materials, advanced polymer composites, graphene, and green chemistry** (combined market of **\$6.5B CAD**)

**LOW IMPACT FOOD PROCESSING**

- ✓ Growing demand for **locally-sourced** and **locally-produced** food
- ✓ Opportunity to improve the presence of this sub-sector **locally**
- ✓ Large and growing sub-sector, with national market at **\$117.8B CAD** (2019), and US market at **\$2T USD** (2019), and CAGR of **6.5 per cent**
- ✓ Growing global demand food security and better access to food supply chain

**Advanced Manufacturing teamed with Material and Process Innovation:** The Sustainable Kingston Plan lists advanced manufacturing as a priority.<sup>96</sup> The Canadian advanced manufacturing sector is strong (e.g., robotics, 3D printing, and ICT technologies) and is seen as a global leader in system integration, artificial intelligence (AI), sensors, and automation. Kingston has shown strength in the areas of chemicals (e.g., Green Centre Canada, KPM Accelerate) and primary metals (e.g., Novelis).<sup>97</sup> By applying these technologies to the local manufacturing marketplace, a more sustainable manufacturing ecosystem will emerge. Market drivers that are influencing growth include:

- Competitive global government initiatives and policies funding advanced manufacturing R&D;<sup>98</sup>
- Widespread adoption by the aerospace, automotive, medical device, and defence industries;<sup>99</sup>
- Increase in conversion of traditional machinery into those incorporating additive manufacturing to increase speed and reliability;<sup>100</sup>
- Increasing demand for production efficiencies across the entire value chain; and,
- The rise in development and implementation of international environmental standards for manufacturing.<sup>101</sup>

Kingston also has strong academic research capacity and expertise to leverage in the flagship area of material and process innovation. This capacity includes a national network of university-based micro-macro discovery labs, and the globally recognized Reactor Materials Testing Laboratory. Local innovations in sustainable building materials, advanced polymer composites, graphene, and green chemistry should be supported more fully.<sup>102</sup>

From a positioning perspective, material innovation can also include aluminum manufacturing. Secondary aluminum recycles scrap into aluminum that can be used again, an environmentally sound process that is 92 per cent more energy efficient than primary production. In fact, close to 40 per cent of the North American aluminum supply is now created through secondary production, reducing landfill waste, contributing much lower GHG emissions, and reducing international transportation.<sup>103</sup> Kingston has a high location quotient (LQ)<sup>104</sup> in this area (6.38), and can easily supply other markets.

**Low-impact Food Processing:** The Sustainable Kingston Plan lists advanced manufacturing as a priority.<sup>105</sup> With the continuing demand for locally sourced and produced food, Kingston's unique location with access to 14.5 million people within three hours is a strong selling point for this subsector. In Canada, the food and beverage processing industry accounted for the largest share (16.4%) of the GDP of the total manufacturing sector (\$28.5 billion CAD).<sup>106</sup>

Market drivers that are influencing growth include:

- A growth in international packaged and convenience food demand;<sup>107</sup>
- An increase in Canadian local, organic, and health food demand, and retail locations specializing in those areas;<sup>108</sup>
- Adoption of advanced technologies to reduce overhead and increase manufacturing productivity and output;<sup>109</sup>
- Increase in demand for plant protein and alternative meat products, as well as functional foods and nutraceuticals;<sup>110</sup>
- The desire from consumers for more sustainable, environmentally friendly food production practices;<sup>111</sup>
- A concern about local food security and supply in the light of pandemics, climate change, and increasing global trade protectionism.<sup>112</sup>

In the way of sustainability manufacturing, capitalizing on low impact food processing is crucial. For the purpose of this strategy, low impact is defined as food processing that requires low usage of water and wastewater. There has been some movement in this sector, from new facilities to microbreweries and equipment suppliers. Specific examples in Kingston include Local Leaf Farms and Spearhead Brewing Co.



## SECTOR PERFORMANCE

The following data reveal that the sustainable manufacturing sector is robust and growing in Kingston. Kingston only captures, however, a small fraction of the Ontario manufacturing industry.

Kingston has a high location quotient<sup>113</sup> in the manufacturing sector and several areas of strength to build upon (e.g., chemicals, primary metals). Several components within

the manufacturing sector in Kingston have a location quotient of more than five, indicating a strong sectoral performance. The local industry has also expressed interest in additional partnerships and collaboration, which can further strengthen the sector. If the sector maintains a three per cent annual growth rate, it will generate about 1,000 new jobs and \$200 million CAD in GDP by 2030.

**Figure 17: Key indicators, manufacturing sector, NAICS 31 – 33, Kingston CMA, various dates**

Indicator	Amount	Date
Workforce (percentage)	↑ 40.6% <sup>114</sup>	2014-19
Workforce (number of employees)	↑ 1,004 <sup>115</sup>	2014-19
Business counts (percentage)	↑ 8.5% <sup>116</sup>	2014-19
Business counts (number of firms)	↑ 10 <sup>117</sup>	2014-19
GDP	\$494 million CAD*	2019
GDP as percentage of Ontario's GDP	0.6%*	2019
GDP growth (percentage)	↑ 18.0%*	2014-19
GDP growth (dollars)	\$74 million CAD*	2014-19
Forecasted annual economic output of sector	\$1.63 CAD*	2019
Forecasted annual GDP for every \$1 CAD input	\$0.58 CAD*	2019
Research funding dedicated to this sector (PSE institutions, primarily Queen's University)	Approximately \$71 million CAD <sup>118</sup>	2014-19

\* 1. The multipliers are province wide. For most sectors, the bulk of GDP, labour income and job impacts would accrue in the CMA area.

2. Jobs are shown as full-time equivalent (FTE). They are shown per \$1 million CAD in sector output.

Kingston CMA real GDP (2012), 2014-19 trend and 2019-24 forecast – Conference Board of Canada. The Board does not provide estimates for NAICS 11 Agriculture, forestry, fishing, 21 Mining, quarrying, and oil and gas extraction or 22 Utilities – only an aggregate estimate for primary industries and utilities combined. The Board also combines NAICS 52 Finance and insurance, 53 Real estate, Rental and leasing and 56 Administrative and support into an aggregate estimate.

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# Appendix IV: NAICS Classification

Please note: NAICS codes that are not 6-level include all classifications that fall under it (unless specified). For the purposes of implementing Kingston’s Health and Health Innovation and Sustainable Manufacturing cluster, the following NAICS are suggested.

This classification is a selected list that is open for future discussion and refinement.

Data collected for the original data analysis (Appendix C) were 2-Level NAICS codes: Manufacturing (31-33) and Health and social assistance (62).

**Figure 18: Suggested NAICS, sustainable manufacturing**

NAICS	Description
115	Support activities for agriculture and forestry
2211	Electric power generation, transmission, and distribution
237130	Power and communications line and related structures construction (power plants, including nuclear)
2379	Other heavy and civil engineering construction (hydro)
22132	Sewage treatment facilities
23711	Water and sewer line and related structures construction
311	Food manufacturing (except 3115 dairy product manufacturing and 3116 meat product manufacturing)
313	Textile mills
314	Textile product mills
315	Clothing manufacturing
316	Leather and allied product manufacturing
321	Wood product manufacturing
322	Paper manufacturing
323	Printing and related support activities
325	Chemical manufacturing

NAICS	Description
32519	Other basic organic chemical manufacturing
3256	Soap, cleaning compound and toilet preparation manufacturing
325999	All other miscellaneous chemical product manufacturing
327	Non-metallic mineral product manufacturing
331	Primary metal manufacturing
332	Fabricated metal product manufacturing
333	Machinery manufacturing
334	Computer and electronic product manufacturing
335	Electrical equipment, appliance, and component manufacturing
336	Transportation equipment manufacturing
337	Furniture and related product manufacturing
339	Miscellaneous manufacturing
4181	Recyclable material merchant wholesalers
4183	Agricultural supplies merchant wholesalers
54137	Surveying and mapping (except geophysical services)
562	Waste management and remediation services
54162	Environmental consulting services

Note: Clean technology specific NAICS codes have been defined by Statistics Canada (2020) as: “Support activities for agriculture and forestry industries (NAICS 115), Oil and gas extraction industries (NAICS 211), Utilities industries (NAICS 221), Construction industries (NAICS 236, 237, 238), Manufacturing industries (NAICS 311, 321, 324, 325, 326, 327, 332, 333, 334, 335, 336, 339), Wholesale trade industries (NAICS 412, 415, 416, 417, 418, 419), Software publishers industry (NAICS 511), the Data processing, hosting, and related services industry (NAICS 518), the Professional, scientific, and technical services industry (NAICS 541), the Management, scientific, and technical consulting services industry (NAICS 5416), the Administrative and support, waste management and remediation services industries (NAICS 561, 562), and the Repair and maintenance industry (NAICS 811).”<sup>119</sup>

**Figure 19: Suggested NAICS, health and health innovation**

NAICS	Description
3254	Pharmaceutical and medicine manufacturing
511211	Software publishers (except video game publishers)
518	Data processing, hosting, and related services
5416	Management, scientific, and technical consulting services
5433	Engineering services
54138	Testing laboratories
54171	Research and development in the physical, engineering, and life sci-ence
54199	All other professional, scientific, and technical services
62	Health care and social assistance



# Endnotes

All hyperlinks within have been validated as of the date of this research report.

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<sup>109</sup> "Industrie 2030: Accelerating Adoption of Advanced Manufacturing Technologies," Canadian Manufacturers & Exporters, 2017, [http://www.rbcroyalbank.com/commercial/campaign/supplychain/\\_assets-custom/pdfs/Accelerating\\_Adoption\\_of\\_Advanced\\_Manufacturing\\_Technologies.pdf](http://www.rbcroyalbank.com/commercial/campaign/supplychain/_assets-custom/pdfs/Accelerating_Adoption_of_Advanced_Manufacturing_Technologies.pdf)

<sup>110</sup> "Plant-based Protein Market: Global and Canadian Market Analysis," National Research Council Canada, October 2019, <https://nrc.canada.ca/en/research-development/research-collaboration/programs/plant-based-protein-market-global-canadian-market-analysis>

<sup>111</sup> "Environmental Sustainability Becoming a Business Imperative," pwc Canada, 2019, <https://www.pwc.com/ca/en/industries/retail-consumer/environmental-sustainability-becoming-a-business-imperative.html#:~:text=It%20showed%20that%20when%20it,and%20ethically%20or%20sustainably%20produced>

<sup>112</sup> "COVID-19 and the Food and Agriculture Sector: Issues and Policy Responses," Organisation for Economic Co-operation and Development, April 2020, <https://www.oecd.org/coronavirus/policy-responses/covid-19-and-the-food-and-agriculture-sector-issues-and-policy-responses-a23f764b/>

<sup>113</sup> The location quotient (LQ) provides a measure of the intensity of employment in a given sector in a region relative to the level of employment in that sector at the national level. The LQ is presented as the ratio of the percent of the total regional employment in a sector to the per-cent of the total employment in that sector at the national level

<sup>114</sup> Stiletto Midpoint Analysis, 2020

<sup>115</sup> Stiletto Midpoint Analysis, 2020

<sup>116</sup> "Kingston CMA Business Counts 2014-2019," Statistics Canada, 2019

<sup>117</sup> "Kingston CMA Business Counts 2014-2019," Statistics Canada, 2019

<sup>118</sup> Stiletto Asset Mapping, 2020

<sup>119</sup> "Survey of Environmental Goods and Services (SEGS)," Statistics Canada, 2020, <https://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=1209&lang=en&db=imdb&adm=8&dis=2#a2>