

A Vibrant Future



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Letter From the Chair



2020 has underlined the importance of the food sector around the world. Food companies along the value chain pivoted and their many challenges became opportunities, while the agricultural community remained steadfast in their commitment to growing.

Embarking on a plan that will guide the Golden Horseshoe Food and Farming Alliance on a path of capacity building and sector support for all areas of the food value chain is no small feat. We are thankful for the continued partnership of the regions and cities that comprise the Greater Golden Horseshoe, the members around the table that offer ground level experience, and the Wilton Group for developing a plan as robust as the Golden Horseshoe itself.

It is with great enthusiasm and a strong focus on sector strength that the Golden Horseshoe Food and Farming Alliance undertake this work plan and move forward on a path to a resilient and vibrant future.

Johanna Downey

Peel Regional Councillor, Ward 2 Caledon



Johanna Downey Peel Regional Councilor. Ward 2 Caledon

Executive Summary

Ontario's Golden Horseshoe lies on the western edge of Lake Ontario and contains a diverse mix of landscapes, people, institutions, and industries. Similar to Foodvalley in the Netherlands, the food and farming cluster in the Golden Horseshoe presents unique opportunities for innovative development and forward-thinking policies.

The Golden Horseshoe Food and Farming Alliance (the "Alliance") has proven itself to be a valuable partnership among municipalities, agricultural groups, educational institutions, and provincial ministries to co-ordinate efforts within this vibrant region. In 2012, The Alliance produced an Action Plan to set goals and guide activities over a 10-year planning horizon. This new Action Plan provides an update to the previous Plan based on economic and societal changes that have arisen since 2012, in order to guide the Alliance over the next 5 years. These changes include advancements in technology (such as automation and artificial intelligence), the impacts of climate change, the changing policy context, as well as the effects of the COVID-19 pandemic on the agri-food system.

This Action Plan aims to build on past successes while taking into consideration emerging trends and opportunities to plan for a prosperous future for the agri-food sector within the Golden Horseshoe region.

Through research and engagement, including interviews, a survey, an environmental scan, and a virtual Summit, this Action Plan identifies 3 broad goals for the Alliance over the next 5 years. To help achieve each of these goals, this Action Plan identifies a series of objectives with 39 practical and measurable actions. The Action Plan also includes a roadmap for each goal to demonstrate how each action contributes to broader progress.



The Vision

The Golden Horseshoe is globally renowned as a vibrant and sustainable agri-food cluster, characterized by profitable farming operations of all sizes, a thriving hub of food processing and food retail, extensive research capacity, and innovative technology.

Towards a Vibrant **Future**

The action plan is broken down into 3 goals to achieve the vision of the organization.

These three goals are:

GOAL A:

The GHFFA is recognized as the leading organization with expertise on food and farming issues and opportunities in the Golden Horseshoe Region of Ontario.

To build upon past successes and ensure long-term viability, the Alliance will refine its organizational capacity to enhance effectiveness. The Alliance will also grow its influence and impact by building new partnerships, strengthening existing institutional connections, and ensuring that its members recognize the value in the Alliance's collaborative approach.

GOAL B:

Establish the Golden Horseshoe as Canada's leading innovative agriculture and agri-food cluster.

The Alliance will support and drive efforts across the region to enable economic growth in the Golden Horseshoe's agri-food sector. There are important roles for the Alliance in terms of convening knowledge sharing events, fostering relationships from diverse perspectives, coordinating data resources to inform decision making, and fostering enhanced capacity for research and innovation to grow the cluster.

GOAL C:

Enable the agri-food cluster to support sustainability outcomes.

The high-quality agricultural land and favourable growing conditions within the Golden Horseshoe and the associated agri-food system forms the foundation of this important cluster. Sustainability outcomes include the consideration of longterm environmental stewardship, participating in climate change adaptation and mitigation efforts as well considerations for an inclusive and socially responsive agrifood sector. Healthy, affordable food, dignified work, and access to participation in the agri-food sector are all key components of a vibrant agri-food cluster. As the Golden Horseshoe agri-food cluster develops and grows, it will be critical to support the three pillars of sustainability—economy, society, and the environment—to achieve a truly vibrant, inclusive, and equitable agri-food cluster.

Towards a Vibrant

Future

To achieve these goals, they are further broken down into objectives which organize the actions.

The objectives under each goal are:

GOAL A:

The GHFFA is recognized as the leading organization with expertise on food and farming issues and opportunities in the Golden Horseshoe Region of Ontario.

- Achieve organizational excellence.
- Advocate on behalf of the food and farming sector in the Golden Horseshoe

GOAL B:

Establish the Golden Horseshoe as Canada's leading innovative agriculture and agri-food cluster.

- Grow the cluster via networking and relationship building.
- Enable municipal and other agri-food cluster stakeholders to enhance data-driven decision making across the Golden Horseshoe.
- Foster research and innovation.

GOAL C:

Enable the agri-food cluster to support sustainability outcomes.

- Enhance the economic capacity of agriculture and agri-food cluster in the Golden Horseshoe.
- Enhance the capacity for the agri-food cluster in the Golden Horseshoe to contribute to public health outcomes.
- Support ongoing climate change adaptation and mitigation initiatives and foster collaborations that position the agriculture and food and beverage manufacturing sectors as leaders in sustainability.

Figure 1. Overview of goals and objectives.

Towards a Vibrant

Future

The actions under each objective are broken down into three key Alliance roles. The Alliance roles are identified throughout the Action Plan using these three icons:



Knowledge sharing



Strengthening regional policy and opportunities for sector growth



Expanding/ strengthening networks





In some instances, partnerships should be sought to lead the action items. An Alliance lead action item is indicated with a checkmark; however, it is implied that there will be some level of collaboration in most of the action items. To indicate seeking out a potential partner to lead the action item, a handshake icon is used.



Alliance leadership



Partnership or collaboration

ACTIONS | A.1 - Achieve Organizational Excellence



Lead/Support GHFFA Staff and Board

Potential Partners & Collaborators **Greenbelt Foundation**

Timeline Jan 2021- Jun 2021

Develop an operational manual to refine and confirm the governance structure, financial sustainability, and organizational roles and responsibilities. The operational manual should include updates to the Board and Working Group Terms of Reference and incorporate equity, diversity, and inclusion goals.



ACTION | A.1.2

GHFFA Staff and Working Group

Potential Partners & Collaborators Greenbelt Foundation

Timeline Iul 2021- Dec 2021

Develop and execute a Communications Strategy, subdivided for 3 audiences: Internal Stakeholders (the working group and board), External Stakeholders, and Government Relations. Ensure that communication continues to be a core component of Alliance operations.



ACTION | A.1.3

Lead/Support GHFFA Staff and Board Potential Partners & Collaborators Alliance Board

Timeline

Jan 2021- Dec 2021

Develop a formal letter of commitment template to be signed by each member municipality and partner. This letter should demonstrate commitment to the agri-food sector through involvement in the Alliance. Signatories should include the Chair of the Board of the Alliance, and the appropriate signatory (i.e. the Mayor, Executive Director of partner organizations, etc.)



ACTION | A.1.4

Lead/Support **GHFFA Staff**

Potential Partners & Collaborators Working Group

Timeline

Each AGM from 2021-2026

Use the Annual General Meeting as an opportunity to celebrate wins, report on outcomes and enhance relationship building with existing and new collaborators by expanding attendance to over 100 people representing a broad range of stakeholders across the Golden Horseshoe, from researchers, to innovators and investors, municipal partners, conservation authorities, other ministries and provincial leaders, farmers, and more.

ACTIONS | A.2 - Advocate on behalf of the agri-food cluster in the Golden Horseshoe



Lead/Support GHFFA Staff and Working Group

Potential Partners & Collaborators Greenbelt Foundation, OMAFRA

Timeline Anually beginning March 2022

Collaborate with Alliance members to design and implement a series of workshops (up to 5) and roundtables (2) to elevate the agri-food cluster in the Golden Horseshoe. (See action items, B.1.1, B.1.2, B.1.3, B.2.3, C.1.5).





ACTION | A.2.2

Lead/Support GHFFA Staff and Working Group Potential Partners & Collaborators **Greenbelt Foundation**

Timeline Anually beginning Jan 2021

Collaborate with Alliance members to develop short, plain language position papers to be published annually to support the agri-food sector in the Golden Horseshoe (up to 5). These position papers should bring forward the latest research and examples of innovative policies aimed at supporting a thriving and dynamic agri-food supply chain. They may include papers responding to policy challenges, or proactive papers based on emerging opportunities. For example, one of the position papers should explore land tenure agreements that provide entrepreneurial opportunities for new entrants to the farm and food sector.



Lead/Support **GHFFA Staff**

Potential Partners & Collaborators

Timeline Jan 2021 - Dec 2022

Engage with the Canadian Chamber of Commerce Agriculture and Agri-food Policy Committee, Canadian Agri-food Policy Institute, Arrell Food Institute, Bioenterprise, the TCI Network, Agriculture and Agri-food Canada and other similar organizations to enhance the national presence of the Golden Horseshoe agri-food cluster. For example, **Foodvalley** in the Netherlands is a nationally-recognized agri-food cluster.

ACTIONS | A.2 - Advocate on behalf of the agri-food cluster in the Golden Horseshoe



Lead/Support

Potential Partners & Collaborators

Timeline

GHFFA Staff and Working Group

Alliance Board

Anually beginning in 2021

Organize regular Queen's Park Days or similar events to highlight how the agri-food sector in the Golden Horseshoe is an economic driver in Ontario.



Lead/Support Alliance Board

Potential Partners & Collaborators

Working Group

Timeline

Jan 2021 - Dec 2026

Advocate for expanding access to high-speed internet to enhance equity in economic opportunity linking rural and urban communities in the Golden Horseshoe.



Lead/Support

Alliance Board & Working Group

Potential Partners & Collaborators

GHFFA Staff

Timeline

Jan 2021 - Dec 2026

Continue to ensure municipal partners (including single, upper and lower-tier municipalities) in the Golden Horseshoe have committed planning and economic development staff roles with a focus on the agri-food sector. Encourage interdepartmental collaboration at the municipal level beyond economic development and planning to support the agri-food cluster and continue to collaborate across municipalities.

ACTIONS | B.1 - Grow the cluster via networking and relationship building



Lead/Support Potential Partners & Collaborators Timeline

Working Group See Below Jan 2022 - Dec 2026

Collaborate to convene and host roundtable discussions with Golden Horseshoe municipalities, the Ministry of Agriculture, Food and Rural Affairs, and food manufacturing industry leaders on the opportunities and challenges to expand agri-food manufacturing in the Golden Horseshoe.

Potential Partners & Collaborators

Food and Consumer Products Canada Hamilton-Oshawa Port Authority (HOPA) OMAFRA

Food manufacturing companies





ACTION | B.1.2

Lead/Support Potential Partners & Collaborators Timeline

Working Group See Below Dec 2023 - Dec 2026

Host roundtable discussions on the opportunities for agri-food entrepreneurship "centres of excellence" across the Golden Horseshoe.

Potential Partners & Collaborators

Durham College Vineland Research and Innovation Centre Niagara College Holland Marsh Research Station

The University of Guelph Meat and Poultry Ontario, Canadian Food Innovation Network

George Brown College District Ventures Kitchen

York University Yspace Other groups spurring innovation in the agri-food sector.





ACTION | B.1.3

Lead/Support Potential Partners & Collaborators Timeline
Working Group
Post 2022

Working Group See Below Dec 2023 - Dec 2026

Host a workshop to bring together automation engineers, software developers, and primary production to network and expand opportunities to develop innovative food and on-farm technologies (e.g. robotics, artificial intelligence, sensors, etc.).

Potential Partners & Collaborators Vineland Research and Innovation Centre Farm Organizations Post-secondary institutions



ACTIONS | B.1 - Grow the cluster via networking and relationship building



ACTION | B.1.4

Lead/Support Working Group

Potential Partners & Collaborators

See Below

Timeline

Jan 2022 - Dec 2026

Host 2-3 cross-municipal business to business networking events resulting in partnership opportunities for farm, agri-food, and restaurants/food service businesses across the Golden Horseshoe. Consider inviting an engaging speaker of interest to farm businesses and retailers to attract interest.

Potential Partners & Collaborators

Chambers of Commerce across the Golden Horseshoe and Greater Golden Horseshoe

Business development stakeholders representing Black, Indigenous and people of colour (BIPOC) in the Golden Horseshoe

Municipal Economic Development Staff







ACTION | B.1.5

Lead/Support Working Group

Potential Partners & Collaborators Durham College Centre for Food

Timeline

Jan 2022 - Mar 2023

Showcase opportunities in the Golden Horseshoe for intensive market garden, urban agriculture and urban farming business development. Begin by hosting an Alliance Board and Working Group meeting at Durham College Centre for Food.



ACTION | B.1.6

Lead/Support Working Group

Potential Partners & Collaborators Feed Your Future, Golden Horseshoe Workforce

Development Boards

Timeline

Jan 2021- Dec 2024

Support initiatives that promote agri-food sector employment by hosting 2-4 series of Feeding Your Future career fairs within each of the Golden Horseshoe regions/cities.





ACTION | B.1.7

Lead/Support Working Group

Potential Partners & Collaborators Ministry of Labour, Training, Skills & Development Timeline

Jan 2021- Dec 2024

Explore funding and/or training/skills development opportunities that exist within the Ministry of Labour, Training and Skills Development relevant for agri-food cluster development.

ACTIONS | B.2 Enable municipal and other agri-food cluster stakeholders to enhance data-driven decision making across the Golden Horseshoe.





ACTION | B.2.1

Lead/Support ConnectON

Potential Partners & Collaborators Food & Consumer Products of Canada

Timeline

Jan 2022 - Dec 2023

Develop an economic snapshot of the agri-food sector in the Golden Horseshoe that includes labour market data to attract agri-food manufacturing opportunities to the Golden Horseshoe.



ACTION | B.2.2

Lead/Support ConnectON

Potential Partners & Collaborators Working Group, OMAFRA

Timeline

Jan 2021 - Dec 2026

Explore the opportunity to develop open and/or fee-based access portals within the ConnectON tool. Continue to build on opportunities for collaboration with the Agricultural System Portal.





ACTION | B.2.3

Lead/Support ConnectON

Potential Partners & Collaborators Working Group, OMAFRA

Timeline

Ian 2021- Dec 2026

Host 1-2 mapping workshops by 2026 to teach interested municipal partners about the full suite of ConnectON asset mapping capabilities to foster economic development activity. Workshops may be virtual and consist of a combination of formal presentations and hands-on peer-to-peer learning opportunities. Municipal partners can include those within the Golden Horseshoe and elsewhere in Ontario.





ACTION | B.2.4

Lead/Support ConnectON

Potential Partners & Collaborators Working Group, OMAFRA

Timeline

Jan 2021- Dec 2026

Showcase a series of aggregated data products for the Golden Horseshoe region, and Ontario more broadly. This may include labour market data (see also action item B.2.1), incubator/innovation spaces, or data pulled to inform timely policy conversations. The aggregated data products could be turned into infographics or briefs for GHFFA members to share with their networks.

ACTIONS | B.3 - Foster Research & Relationship Building



ACTION | B.3.1

Lead/Support Working Group

Potential Partners & Collaborators

See Below

Timeline

Jan 2022 - Dec 2026

Foster research that facilitates import replacement opportunities and market development strategies by enabling regional farms to experiment with growing culturally relevant foods.

Potential Partners & Collaborators **Greenbelt Foundation** Farmers and farm organizations Vineland Research and Innovation Centre





Lead/Support GHFFA Staff & Working Group

Potential Partners & Collaborators See Below

Timeline

Jan 2021 - Dec 2026

Grow the uptake of the Serving Up Local project by expanding the project within long term care facilities across the Golden Horseshoe and including other broader public sector opportunities.

Potential Partners & Collaborators

Greenbelt Fund

Other municipal partners (i.e. long-term care facilities, University of Guelph and other post-secondary institutions)





ACTION | B.3.3

Lead/Support Greenbelt Foundation & Working Potential Partners & Collaborators See Below

Timeline

Jan 2021- Dec 2026

Support the expansion of locally grown and processed fruits and vegetables in the Golden Horseshoe by enabling progress towards the actions identified in the 2020 Plant the Seeds report.

Potential Partners & Collaborators Agriculture and Agri-Food Canada Ontario Ministry of Agriculture Food and Rural Affairs Vineland Research And others



ACTIONS | B.3 - Foster Research & Relationship Building





ACTION | B.3.4

Lead/Support Working Group

Potential Partners & Collaborators Meat & Poultry Ontario

Timeline

Jan 2022 - Dec 2026

Support activities that offer opportunities to grow the meat and poultry processing capacity in the Golden Horseshoe and surrounding areas, focusing on small and medium enterprises.



ACTION | B.3.5

Lead/Support Working Group

Potential Partners & Collaborators See Below

Timeline

Jan 2022 - Dec 2026

Explore creative uses of existing serviced land in urban areas in the Golden Horseshoe for production that may include small-scale intensive production opportunities and/ or community gardens (e.g. greenhouses, tech-hubs, agri-food corridors, intensive controlled environment gardens, and as regenerative projects in brownfield areas).

Potential Partners & Collaborators Greenbelt Foundation Municipal Economic Development and planning staff





ACTION | B.3.6

Lead/Support Working Group

Potential Partners & Collaborators Greenbelt Foundation & Fund

Timeline

lan 2022- Dec 2026

Investigate regional opportunities to develop, invest in and/or incentivize creative re-use of existing infrastructure to support food incubators, accelerators, commercial kitchens³, ghost kitchens, and packaging facilities. (See B.1.3)



ACTION | B.3.7

Lead/Support **Working Group**

Potential Partners & Collaborators

Timeline

Jan 2024- Dec 2024

Encourage the development of a "catalogue" of definitions for the various creative and innovative uses associated with urban agriculture. Definitions may include urban agriculture, urban farm, urban garden, peri-urban agriculture, vertical farming, etc.4

³ Ghost kitchens are an emerging way for food companies to do business. In this model, restaurants and other food service providers do not have a storefront but rather, prepare foods in a kitchen and deliver straight to your door. This has become particularly popular during the pandemic. For more on ghost kitchens, see this article, <u>here.</u>

[&]quot;The City of Atlanta's "Aglanta" initiative has a webpage describing these definitions and more. There is an opportunity for the Alliance to lead similar work across the Golden Horseshoe. https://www.aglanta.org/

ACTIONS | C.1 - Enhance the economic capacity of agricultural land in the Golden Horseshoe.





ACTION | C.1.1

Lead/Support **GHFFA Staff & Working Group** Potential Partners & Collaborators

Timeline

lan 2021 - Dec 2026

Maintain regular Working Group meetings as a space to collaborate and align land use policy and economic development topics and best practices from a food systems perspective.



ACTION | C.1.2

Lead/Support Working Group

Potential Partners & Collaborators See Below

Timeline

Ian 2021 - Dec 2026

Strengthen collaborative opportunities with OMAFRA to provide expert advice in the review of land use policy tools, documents, and amendments, and develop connections with the Ministry of Municipal Affairs and Housing to ensure Alliance input regarding provincial planning policy.

Potential Partners & Collaborators

Ontario Ministry of Agriculture, Food, and Rural Affairs

Ministry of Municipal Affairs and Housing





Lead/Support Working Group

Potential Partners & Collaborators See Below

Timeline

Jan 2021 - Dec 2026

Continue to collaborate with the OMAFRA regional economic development staff to support strong regional-provincial connections and forge new collaborations with other provincial and federal groups such as the Department of Innovation, Science and Economic Development; Ministry of Environment, Conservation and Parks; Environment and Climate Change Canada, Agriculture and Agri-food Canada and Ministry of Finance.

Potential Partners & Collaborators

Ontario Ministry of Agriculture, Food, and Rural Affairs, Innovation, Science and Economic Development

Ministry of Environment, Conservation, and Parks

Ministry of Finance



ACTIONS | C.1 - Enhance the economic capacity of agricultural land in the Golden Horseshoe.



ACTION | C.1.4

Lead/Support Working Group

Potential Partners & Collaborators Alliance Board, Greenbelt Foundation

Timeline Jan 2021 - Dec 2026

Share best practices and lessons learned to encourage consistent treatment of the onfarm diversified uses as defined in A Place to Grow, the Greenbelt Plan, and OMAFRA guidelines across the Golden Horseshoe.





ACTION | C.1.5

Lead/Support Working Group

Potential Partners & Collaborators See Below

Timeline

Jan 2023 - Dec 2026

Identify a partner to host 2-3 educational workshops to address farm and business succession/transition issues.

Potential Partners & Collaborators Farm Management Canada Farm Credit Canada Canadian Association of Farm Advisors Ontario Federation of Agriculture





ACTION | C.1.6

Lead/Support Working Group

Potential Partners & Collaborators See Below

Timeline

Jan 2021 - Dec 2026

Support cross promotion of agritourism activities across the Golden Horseshoe and explore opportunities to develop regional agritourism activities such as 'Farm Fresh' initiatives and 'Culinary Trails'.

Potential Partners & Collaborators Greenbelt Foundation Ontario Farm Fresh Marketing Association

Local 'farm fresh' organizations

Regional Tourism Organizations (RTO's) for the Golden Horseshoe



ACTIONS | C.2 Enhance the capacity for agricultural land in the Golden Horseshoe to contribute to public health outcomes.



Lead/Support Working Group

Potential Partners & Collaborators Municipal Public Health Stakeholders

Timeline Jan 2022 - Dec 2026

Invite public health staff from each member municipality to participate in an annual Working Group meeting to discuss food access initiatives and GHFFA work.







ACTION | C.2.2

Lead/Support Working Group

Potential Partners & Collaborators Alliance Board

Timeline Jan 2021 - Dec 2026

Monitor the activities of local food policy councils and efforts to enact food charters and strategies from food access and availability perspectives. Participate in regional initiatives as needed and consider the **National Food Policy** priority outcomes in Alliance activities.





🚣 🚱 ACTION | C.2.3

Lead/Support Working Group

Potential Partners & Collaborators See Below

Timeline

Jan 2022 - Dec 2026

Discuss opportunities for incentives to remove business/enterprise development barriers for small-scale urban agriculture and community gardens across the Golden Horseshoe within urban areas, specifically with respect to publicly-owned land. (See also B.3.5)

Potential Partners & Collaborators

Greenbelt Foundation Rouge National Urban Park Urban agri-businesses Other relevant stakeholders



ACTIONS | C.3

Support ongoing climate change adaptation and mitigation initiatives and foster collaborations that position the agriculture and food and beverage manufacturing sectors as leaders in sustainability.



Lead/Support Potential Partners & Collaborators **GHFFA Staff** Jan 2021 - Dec 2026 See Below

Help position the farm and food sector within the Golden Horseshoe as a leader in meeting sustainability metrics by networking with the National Index Project and the Canadian Agri-food Sustainability Initiative.

Potential Partners & Collaborators National Index Project Canadian Agri-food Sustainability Initiative







ACTION | C.3.2

Lead/Support Potential Partners & Collaborators Timeline Working Group See Below Jan 2021 - Dec 2026

Continue to support the ongoing activities of organizations such as the OSCIA and Conservation Authorities in their work to promote and encourage the adoption of environmental stewardship best management practices across the Golden Horseshoe. For example, this may include promoting OSCIA environmental farm plan workshops amongst farm businesses in the Golden Horseshoe.

Potential Partners & Collaborators Ontario Soil and Crop Improvement Association Conservation Authorities. Ontario Farmland Trust Ecological Farmers of Ontario Among others







ACTION | C.3.3

Lead/Support Potential Partners & Collaborators Timeline Greenbelt Foundation Working Group Jan 2022 - Dec 2026

Provide support for all municipal partners to develop climate change mitigation and adaptation strategies for agriculture by sharing good practices for developing and implementing climate change adaptation and mitigation strategies in the Working Group priorities for 2022-2026.









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1.0 Introduction

Wrapped around the western edge of Lake Ontariolies one of Canada's most dynamic and flourishing regions—the Golden Horseshoe. Spanning from Niagara in the southwest to Durham in the northeast, the region contains over half of Ontario's population and over 60% of the province's businesses.1 Among the many industries in the region, the Golden Horseshoe supports one of Canada's largest agri-food clusters. Thanks to an abundant supply of fresh water, large swaths of fertile soil, and a diverse and ever-growing population, the Golden Horseshoe boasts a concentration of farming, food processing, and distribution capacity. The region plays a major role in Ontario's local food system as well as providing a significant number of commodities for export.

A key economic driver, the Golden Horseshoe agri-food sector contributes approximately \$47.7 billion to Ontario's GDP.2

Collaboration is key to maintain and grow the Golden Horseshoe agri-food cluster. Governments across the region must work together to ensure urban growth does not come at the expense of prime farmlands. Similar to Foodvalley in the Netherlands, public, private, and academic actors must also collaborate to ensure knowledge, skills and opportunities are spread throughout the region to benefit all. Finally, residents and politicians in the Golden Horseshoe must continue to value the importance of a robust and dynamic local agri-food sector.



The Importance of the Golden Horseshoe Agri-Food Sector

Approximately 52% of Ontario's agri-food jobs are in the Golden Horseshoe.3 Beyond primary production, Ontario also hosts the largest food and beverage processing sector in Canada, which accounts for 37% of the industry's national revenue.4 The Golden Horseshoe is a key region for this industry and contains approximately 61% of food, beverage and tobacco businesses in Ontario.5

The Golden Horseshoe contains only 11% of Ontario's farms, but the region has over 70% of Ontario's acreage for peaches, plums, apricots, grapes, and other fruits and vegetables.

The area grows over 200 agricultural commodities including grains, vegetables, meat, dairy products, and nonfood items like flowers and sod. Farming in the Golden Horseshoe occurs in both the Protected Countryside of the Greenbelt and in areas bordering the Greenbelt and closer to urban areas (also known as the "whitebelt"). Urban agriculture is also reflected in agrifood production in the Golden Horseshoe but to a lesser extent and is likely not captured in the Census of Agriculture.

The Golden Horseshoe is home to 61% of Ontario's food and beverage business



The number of farms in the Golden Horseshoe have fallen by 30% since 1996.



The province recognizes 2 Specialty Crop Areas within the Golden Horseshoe





52% of Ontario's agri-food jobs are in the Golden Horseshoe.



The Golden Horseshoe has over 70% of Ontario's acreage for peaches, plums, grapes & pears.



Farmland prices in the Golden Horseshoe were among the highest in Ontario in 2016. Building off the diverse commodities grown on Ontario farms, the agri-food processing sector produces a wide range of products for domestic and export consumption. The agrifood sector in Ontario is fairly integrated, as the Ontario food processing sector purchases approximately 65% of Ontario's farm products. ⁶

The food processing sector in the Golden Horseshoe is made up of both small- and large-scale businesses. Approximately 58% of food and beverage processing businesses in the area employ 1–4 people or do not have employees, which is consistent with processing employment data at the Provincial level.

There are also several major national or international companies concentrated in the Golden Horseshoe. As of 2018, 264 food and beverage processing businesses in the Golden Horseshoe employ over 50 people, representing 65% of provincial employment in the food and beverage processing sector. Within the region, businesses are concentrated in Toronto (41%), York (19%), and Peel (16%). ⁷

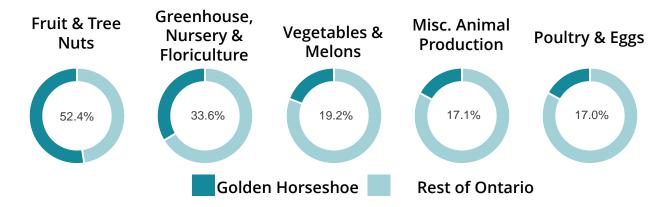


Figure 2. Percentage of Farms by Crop Type in the Golden Horseshoe, 2016.



The Golden Horseshoe Agri-Food Policy Environment

Provincial planning policies are implemented through municipal Official Plans and affect both long- and short-term economic growth by regulating land use and business opportunities. The current policy framework includes several plans and strategies intended to support and protect agriculture in the Golden Horseshoe (Figure 3).

Planning Act

Enables land use planning in Ontario

Provincial Policy Statement

Sets out policy direction for Province

Provincial Plans and Supporting Documents

Niagara Escarpment Plan Oak Ridges Moraine Conservation Plan A Place to Grow Greenbelt Plan Supporting Document Example: ample:

Guidelines on Permitted Uses in Prime Agricultural Areas

Regional/Single-Tier Official Plan

Directs growth for upper-/single-tier municipality Includes policies that can support the agriculture system and the natural heritage system

Local Official Plans

Directs growth in lower-tier municipalities Includes policies supporting the agricultural and natural heritage systems

Zoning Bylaws

Prescribe property-specific requirements Implements the policies laid out in the Official Plan

Additional Plans and Strategies

For example:

- Agricultural Strategy
- Transportation Plan

Figure 3: Planning Hierarchy Affecting Agri-food in the Golden Horseshoe.

Both the Greenbelt Plan and the Growth Plan for the Greater Golden Horseshoe (A Place to Grow)⁸ specify that the Agricultural System includes the agricultural land base (with prime agricultural areas, specialty crop areas, and rural lands) and the agrifood network of infrastructure, services, and other assets relevant to the agri-food sector. The Province has also produced guidelines to help municipalities implement the agricultural systems approach into their official plans.9 These guidelines help municipalities recognize the value of the agrifood sector and encourage municipalities to invest in agricultural infrastructure, such as broadband and natural gas, and incorporate agri-food policies in municipal plans.

The Golden Horseshoe is a particularly unique geographic and socio-economic region. There is a mix of high-quality farmland and high population density to support a large consumer base and labour pool. The region is also home to significant assets, services, and infrastructure (Figure 4)10. The Alliance has been successful in profiling and helping to strengthen these assets. Examples include the Ontario Food Terminal Report which highlights the value of this important asset, and ConnectON, a tool which identifies, quantifies, and highlights the cluster's assets and employment impacts to enhance datadriven decision making.

Infastructure

- transportation infrastructure (e.g., roads, rails, ports, airfreight airports)
- drainage and irrigation systems
- highspeed, broadband internet
- natural gas and electrical utilities

Regional agri-food assets and services

- food and beverage primary processors (e.g., dairies, cheese plants, wineries, cideries, canners, biomass processors)
- grain elevators
- refrigerated warehousing and storage
- livestock assets (e.g., auctions, meat plants, abattoirs)
- agricultural research facilities
- fresh produce terminals, food hubs, distributors, wholesalers, markets

Agricultural inputs and services

- mechanical services
- equipment dealerships
- feed mills
- seed, fertilizer, and feed suppliers
- grading, packing, and distribution facilities
- custom operators
- large animal veterinarians
- crop and nutrient management consultants

Figure 4. Elements of the Agri-Food Network in the Golden Horseshoe.

The Golden Horseshoe Food and Farming Alliance: A Unique Collaboration

The Golden Horseshoe Food and Farming Alliance (the "Alliance") is a not-for-profit partnership among several not-for-profit, municipal, and educational partners. Partners vary in terms of role and funding commitments; however, all are key to the success of the Alliance.

These partners include:

- The Regional Municipalities and Federations of Agriculture of Durham, York, Peel, Halton and Niagara and the Cities of Toronto and Hamilton
- Durham College and Niagara College
- The Greenbelt Foundation
- The Holland Marsh Growers Association
- The University of Guelph
- The Ontario Federation of Agriculture
- **Conservation Authorities**
- The Ontario Ministry of Agriculture, Food and Rural Affairs





PROJECTS AND

ORGANIZATIONAL

	PLISHMENTS	DEVELOPMENT
		Following the Greenbelt Plan release, the GTA Agricultural Action Plan is published with broad institutional support
		The GTA AAC is established with funds from MMAH given through TRCA. Elbert
		Vineland Research and Innovation Centre (VRIC) is established
		Janet Horner appointed as Executive Director of the GTA AAC
		Meeting to bring together Economic Development and Planning across the Golden Horseshoe, including Hamilton and Niagara Regions, for a new Action Plan
		The Golden Horseshoe Food and Farming Alliance is formed, and publishes the 2021 Action Plan
2013	Asset Mapping (ConnectON) & Local Food Act Response	
2014	Published the Agriculture & Agri- food Economic Profile for the Golden Horseshoe	
2015	Supported VRIC World Crop research & Provided funding to Toronto's Food Starter Incubator	
2016	Serving Up Local project begins Supported Halton Ag Strategy and Peel Climate Change & Agriculture Report Co-ordinated Provincial Land Use Plan Review Response Lunch & Learn at Queen's Park for Ontario Agriculture Week	The GTA AAC is formally dissolved 2016
2017	Recognized Canada 150 Farm Families & Urban Farmers Soil Health Workshop	
2018	Workshop for municipalities on implementing the Province's Agricultural	GHFFA achieves independent not-for- profit status as a stand-alone entity serving the food and farming sector within the Golden Horseshoe
2019	GHFFA supports Durham Local Food BR+E Strategy creation and York Ag & Agri-Food Strategy	•
	20	20

Figure 5. A timeline of the Golden Horseshoe Food and Farming Alliance activities from 2005-present.

In 2019, the Alliance recognized the need to update its existing 2012 Action Plan to expand on previous successes and respond to recent trends. The COVID-19 Pandemic has brought attention to the food system like never before. This new Plan recognizes previous successes and integrates new opportunities for the agri-food cluster. It addresses changes in economic, social, and environmental trends that have arisen since the first Action Plan.

This ensures that the Alliance's work supports and strengthens the future of the agri-food sector in the Golden Horseshoe. Moving forward, the Alliance will work collaboratively with its members and external stakeholders to continue to grow a truly unique region into Canada's leading agri-food cluster.



2.0 Methods

Several forms of engagement informed the creation of this Action Plan. An environmental scan was developed to identify agri-food sector trends, key stakeholders were engaged through a series of 38 interviews, and an online survey was distributed to collect input from a wide audience. An online Summit in June 2020 with 80 participants also helped to gather input on current topics and solicit feedback on draft action items.

Tasks	2020						
	Jan	Feb	Mar	Apr	May	Jun	Jul
Working Group Session	•						
Working Group Interviews							
Environmental Scan							
Survey							
Webinar						•	
External Interviews							

Figure 6. Overview of methods.



Environmental Scan - Key Trends

Over 120 academic research articles, industry reports, and other grey literature were synthesized to develop the environmental scan.

OPPORTUNITIES TO ACCELERATE CLUSTER GROWTH

- As a collaborative organization, the Alliance is well positioned to continue to strengthen the agri-food sector for long-term viability and growth.
- There are high potential areas for economic growth, including agrifood import replacement, intensive urban agriculture, and food production that caters to a culturally diverse consumer base.
- The COVID-19 pandemic has increased public interest in local food and has highlighted technological agri-food business opportunities such as e-commerce.
- There is growing interest in investment in agri-food innovation and technology.
- Agritourism and on-farm processing and retail is creating new opportunities for farms to diversify incomes, specifically in nearurban areas.

CHALLENGES TO ACCELERATE CLUSTER GROWTH

- The number of farms in the Golden Horseshoe continues to decrease as the average age of farmers continues to increase. Farm succession will be a growing issue in the coming years.
- Attracting and retaining a robust agri-food workforce continues to be difficult, even in the densely populated Golden Horseshoe region.
- The total amount of farmland is steadily decreasing outside of the Greenbelt, highlighting the need for a regional approach to land use planning and economic development that both supports the agrifood sector and directs urban growth away from farmland.
- Climate change is posing new challenges for agricultural production but may create new opportunities as well.

Interviews

In total, 38 interviews were completed with key stakeholders representing a broad range of interests. Two key groups were engaged.

ALLIANCE MEMBERS

20 Alliance members provided their insights to inform the Action Plan. This includes municipal planning and economic development staff from across the Golden Horseshoe, representing each member municipality, not-forprofit organizations, as well as academic partners.

EXTERNAL STAKEHOLDERS

Key external stakeholders included food processing organizations and businesses, organizations with active roles in research and innovation, farming and extension organizations, among others.

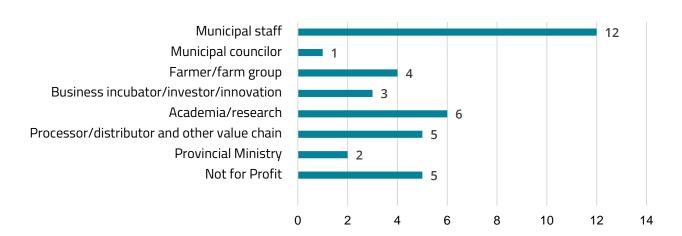


Figure 7. Stakeholders interviewed to inform the Action Plan by their role in the agri-food sector.

Survey

An online survey was conducted from June 15th to June 30th to collect opinions on the Golden Horseshoe's agri-food cluster from stakeholders across the region and value chain.

Respondents identified the top 3 opportunities for the sector within the broad categories of economic expansion, social impact, and innovative development (see figure 8). The top 3 challenges facing the sector were also identified (see figure 9). Survey results are aggregated responses and may include topics and issues that are beyond the scope of the Alliance.

OF THE 93 SURVEY RESPONDENTS:			
29%	Government		
27%	Farmer		
19%	Work for an agricultural or food related organization		
26%	Resident of the Golden Horseshoe		

TOP OPPORTUNITIES TO STRENGTHEN THE AGRI-FOOD SECTOR IN THE NEXT 5-10 YEARS FOOD, FARMING, PEOPLE AND SCIENCE, INNOVATION AND PROSPERITY AND TECHNOLOGY COMMUNITIES Support development Educate consumers about of on-farm diversified Develop climate-friendly the importance of the agricultural practices uses and value-added local food system policies and activities Equip farms and food Replace more imports Increase use of local food with locally grown processing facilities to in public institutions use innovative technology products Support development of sector-specific "centres of Attract and maintain Increase community excellence" for research, a strong agri-food access to safe and innovation, product labour force affordable local food development, skills training, and entrepreneur/start-up support

Figure 8. Top opportunities to strengthen the agri-food sector in three thematic areas over the next 5-10 years, as selected by survey respondents.



Farm Transition/Succession Issues

Filling agri-food sector jobs

Rising Farmland prices

Figure 9. Top challenges to agri-food sector growth over the next 5-10 years, as selected by survey respondents.



Summit

An online Summit, titled A Path to a Resilient and Vibrant Future, was hosted on June 23rd. The Summit included presentations from leading thinkers in the agrifood sector and early results from the project's survey.



At the Summit, a draft version of the four Action Plan goals was presented for feedback. Overall, participants viewed these goals positively, with over three quarters "agreeing" or "strongly agreeing" with each goal being part of the Action Plan.

3.0 Current and Future Trends in Agri-Food: Research and Engagement Results

Considering local, regional, national, and international contexts, there are several topics to explore as the Alliance looks ahead to the next 5 years. The COVID-19 pandemic has directly impacted agri-food in visible ways, but other long-term trends are taking shape as well. The engagement results summarized in this section are based on feedback from the Summit, survey, and interviews.

While many of these areas are complex and inter-related, they can be distilled into three broad topics:

- agri-food cluster growth and resilience
- securing the region's agricultural system for long term viability
- food, farming, and sustainability



3.1 Agri-food Cluster Growth and Resilience

Clusters are generally defined as "geographic concentrations of interconnected companies and institutions in a particular field" (pg. 78).¹¹ Clusters increase productivity, drive and speed up innovation, and stimulate new business development. 12 They achieve these outcomes by offering ease of access to employees and suppliers, specialized information, and public goods, among other benefits. The Golden Horseshoe agri-food cluster includes the broader agricultural system as it is defined in A Place to Grow Plan and the Greenbelt Plan.

This includes prime agricultural areas, specialty crop areas, rural lands. infrastructure, services, and other assets.

Long-term successes do not happen by accident. The Golden Horseshoe's agrifood cluster will need to continue to plan proactively to realize economic goals in the future. There are several topics which will be important as the GHFFA looks ahead to the next 5 years to cultivate a vibrant agri-food cluster.

KEY TAKEAWAYS

- The COVID-19 pandemic has highlighted the importance of the resiliency of Canada's agri-food sector and sectoral coordination is necessary for a robust recovery that builds a better industry for the future.
- Exports play a key role for Ontario's agri-food sector and hold potential for further growth.
- Innovative practices across the value chain may help address several challenges within the sector.
- There are ongoing questions related to **labour supply** within both agriculture and food production.
- **Planning policy** needs to protect the agri-food sector's present assets without limiting the potential for new innovations and business growth.



3.1.1 Taking the Golden Horseshoe Agri-food Cluster to New Heights

The Canadian government has identified the agrifood sector as one of the key drivers of economic growth and has set ambitious targets for the agrifood sector to accomplish. This includes raising domestic sales to \$140 billion and exports to \$85 billion by 2025. 13 The report Made in Canada: Growing Canada's value-added food sector, also identifies opportunities to propel the agrifood sector.14 The Alliance is well positioned to support the many opportunities brought forward by this report.



Foodvalley, Netherlands - Leading the World in Agri-food Innovation

Around the turn of the 21st century, the Netherlands made an ambitious decision to make significant investment in its agricultural sector. 15,16 Despite its small size and limited resources, the country is now the second-largest food exporter in the world, thanks to its forward-thinking development strategy and access to regional markets. This work has been accelerated by the creation of Foodvalley, a knowledge-driven agri-food ecosystem in 2004.¹⁷

Foodvalley connects entrepreneurs and innovators with global networks to spark sectoral growth. It is comprised of 185 member companies from Asia, Europe, and North America. At the center of Foodvalley is Wageningen University & Research, one of the largest research and education centers in agri-food. Today, Foodvalley consists of 8,000 scientists, 70 science companies, and 20 research institutes. The ecosystem facilitates cooperation between companies, knowledge institutions, and governments to drive innovation and development.

The Golden Horseshoe Food and Farming Alliance - Opportunities to Drive **Cluster Development**

Like Foodvalley, the Alliance has much to offer to drive agri-food cluster development. The Golden Horseshoe region contains a network of innovative research spaces and expertise, a healthy agri-food business environment, and access to domestic and international markets. The Alliance's efforts over the past ten years have fostered a municipal environment for planning and development that is ready to accelerate agri-food innovation and business development. The Alliance's collaborative and regional nature positions it to be the facilitating force for agrifood cluster development in the region.

3.1.2 The COVID-19 Pandemic has Exposed the Agri-food Sector's Resiliency

The effects of the COVID-19 pandemic are still unfolding, but there has been an immediate negative impact on Ontario's economy. The COVID-19 Pandemic created challenges for Canada's food production sector and highlighted shortcomings in emergency preparedness as the supply chain responded to a rapid change in consumer habits.

This situation was not unique to Canada. Supply chains around the world suffered shocks to a system designed primarily for efficiency. The dominant "just-in-time" management approach trims excess and closely aligns production levels to demand but cannot easily absorb unforeseen shifts.¹⁸ Challenges in meeting demand, though not long-lasting, led some industry leaders to suggest that this presents an opportunity to re-design and improve Canada's supply chain. Health and safety protocols and workplace closures also shed light on the potential fragility of Canada's agri-food value chain, as most processing occurs at a small number of large plants.¹⁹ There is an opportunity for the Alliance to work with groups such as Meat and Poultry Ontario to strengthen the domestic agri-food value chain. One way to explore this opportunity to "re-build" at a national level would be to explore involvement with groups such as the Canadian Chamber of Commerce Agriculture and Agri-food Policy Committee, Agriculture and Agri-food Canada, the Arrell Food Institute, Bioenterprise, The TCI Network, and the Canadian Agri-Food Sustainability initiative.

I think a key message is that the pandemic revealed the vulnerabilities of the dominant food system and the resilience of the local food system.

Survey Response

There is great value in a resilient food system. In order to be resilient to future disruptions, processing facilities will need to be re-configured to allow for safer working conditions. They also suggested that building processing capacity, not necessarily bigger plants, will be a fundamental component of success and growth for the food system. Specifically, looking at opportunities to retool vacant non-food manufacturing facilities may be a major opportunity in the Golden Horseshoe. The region contains roughly 61% (2,700 of 4,448) of Ontario's food processing facilities.20 Supporting local agri-food products and nurturing a robust local food economy is of critical importance in enabling the economy to bounce back and flourish in the future.

Federal and Provincial Governments recently announced \$5.4 million dollar in cost-share funding to improve food safety, labour productivity, and market access of Ontario food processing businesses through the Canadian Agricultural Partnership.

Approximately 73% of this funding is going to food processing businesses in the Golden Horseshoe. This equates to \$3.95 million in funding.

3.1.3 Continue to Expand Export Opportunities

While supporting local production and markets is of critical importance, there are also abundant opportunities to support export markets in the Golden Horseshoe (also see section 3.1.2). Exports will continue to play a significant role in the Golden Horseshoe's agri-food economy in the coming years. While U.S. trade remains the largest component of Ontario's exports, developing trade links presents opportunities for exports to other nations and regions. The Alliance can play a role by identifying commodities and markets that are expected to grow, and by supporting infrastructure developments for exportdriven production.

43% of survey respondents saw opportunities to reduce the import-export gap as a major opportunity for the Golden Horseshoe.

The region is also home to key transportation assets such as both Canadian Pacific Railway and Canadian National Railway networks ^{21,22}, the Port of Toronto²³, Port Colborne²⁴, and the Hamilton Oshawa Port Authority.25 These transportation assets are important components of sound domestic movement of agri-food commodities as well as providing critical export opportunities.





"We are seeing more choice in the grocery store than before. That allows smaller processors to leverage their strengths and get those products to consumers."

- Mike Von Massow Chair, Food Systems Leadership University of Guelph

"If there's an area of the province where the opportunity [to grow food processing and manufacturing] is ripe, it's in the Golden Horseshoe."

Interviewee University of Guelph



"Yes, there is a real opportunity to strengthen regional food systems, but that shouldn't come at the cost of our exports."

 Mike Von Massow Chair, Food Systems Leadership University of Guelph

43% of survey respondents saw opportunities to reduce the import-export gap as a major opportunity for the Golden Horseshoe

3.14 Research and Innovation is Vital for Sustained Growth

Innovation can be defined in several ways²⁶ and may be related to technology, processes, cultural change, institutional restructuring, social change, or green initiatives. Agri-food innovation often revolves around production and food processing processes to increase supply chain efficiencies.

88% of survey respondents agreed that the Alliance should collaborate with research and innovation institutions to support the continued growth of the sector.



Advancements in agri-food innovations can:



Increase competitiveness and productivity of local firms





Improve food security outcomes





Improve food safety outcomes





Enhance potential to contribute to sustainability goals (locally, regionally, and nationally)



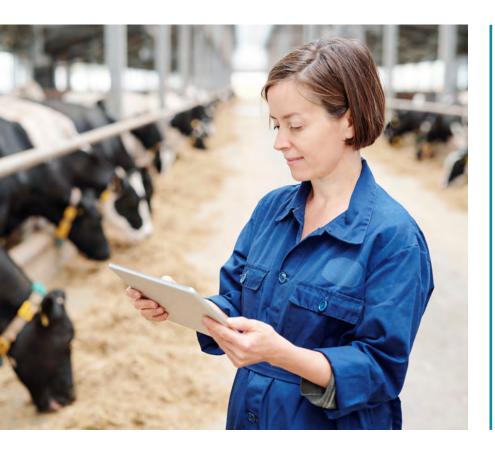


Drive rural development



Co-ordination and strong relationships among industrial, academic, and municipal actors can grow innovation capacity and technological advancement in the agri-food sector. 27

The Agricultural Innovation Council suggests that advancements in agri-food innovation should be driven by sustainable growth, and by using an "Agricultural Innovation System" network-based model that includes a dynamic range of actors from research to innovation adoption.²⁸ Sustainable growth, is defined by Canada's Federal Sustainable Development Act as:



"[growth] that meets the needs of the present without compromising the ability of future generations to meet their own needs. From an environmental perspective, that means achieving lowcarbon, environmentally responsible economic growing, maintaining and restoring our ecosystems, and ensuring Canadians can flourish in clean and healthy environments." (Page 10)²⁹

Importantly, a shift towards an agricultural innovation system requires an environment collaboration, partnerships where and knowledge transfer can take place effectively and efficiently. To keep the Golden Horseshoe's agri-food cluster competitive, businesses must be able to develop new technologies and adopt them as they are developed. There are numerous research and innovation assets in the Golden Horseshoe.

The Alliance has forged a number of important academic partnerships including Niagara College, Durham College, and the Research and Innovation Office at the University of Guelph. Beyond academia, the Alliance has strong partnerships between municipal and industry professionals. Together, these relationships offer a unique opportunity to grow innovative capacity within the Golden Horseshoe.

3.1.5 Labour Supply Remains a Challenge

The COVID-19 pandemic exacerbated labour supply issues across the agri-food value chain, but these challenges have existed for decades. Agri-food job growth in recent years has been concentrated in the distribution and consumer access industries.30 Although there has not been a similar increase in primary production jobs, domestic interest in on-farm work is low. It is estimated that temporary foreign workers make up about 17% of the Canadian agricultural workforce as of 2016 and are expected to rise to 30% by 2030.31

The Canadian Agricultural Human Resources Council estimates that that by 2029, the agricultural sector in Canada will see a labour shortage of 123,000 people, or nearly onethird of the entire labour demand in 2029.32 This shortage is estimated to be felt most significantly in Ontario, where there is a high demand for manual labour. While innovations in farm technology are expected to help reduce the demand for manual labour, there will still be a demand for jobs stemming from these innovations.



42% of survey respondents named attracting and maintaining a strong labour force as a major opportunity for building a prosperous agri-food sector.

40% believed that filling jobs would be a key challenge facing the sector.

Several current initiatives now seek to address these concerns. The Ontario Federation of Agriculture and AgScape are promoting agri-food jobs in the province. Given the unique makeup of the Alliance, effort should be made to educate municipal staff on the special needs for the agri-food sector.

Best practices within the local context should be taken into consideration for issues such as on-farm accommodation, public health, and health and safety training.

It is important that food and beverage processing and manufacturing businesses have access to technology and workforce resources to ensure that their operations are highly efficient and less vulnerable to labour shortages. The Alliance can coordinate with existing programs, organizations, and postsecondary institutions to support agri-food job promotion in the Golden Horseshoe. In addition, the Alliance can hold sector specific roundtables to help the industry explore solutions to ongoing labour requirements.

3.1.6 Planning Beyond Protection to Enhance Cluster Development

In response to the loss of agricultural and natural heritage lands, Ontario introduced several measures to manage growth and development, including the Greenbelt Plan and language in the Provincial Policy Statement to protect the agricultural land base. These measures have slowed urban sprawl in the Golden Horseshoe and have protected important resources. To provide clarity additional related to on-farm economic activities based on the Provincial Policy Statement, Ontario published the Guidelines on Permitted Uses in Ontario's Prime Agricultural Areas. 33

Ontario is currently implementing agricultural system approach to land use planning which recognizes the importance of the agricultural land base and the agrifood network of infrastructure, services, and other assets.34 This is similar to food system planning frameworks used elsewhere. "Food systems" refer to the interconnected networks of persons, activities, and resources that provide food to people and communities in a region. This cuts across traditional boundaries to cover the entire cycle from primary production, through processing and distribution, and onto consumption and the return of nutrients to the soil.35 System approaches also consider the socio-economic and environmental effects of the activities under study.

"The Golden Horseshoe sees itself as part of a food system. Too often we talk about a fight against rural vs urban, farmer vs consumer. We need to think about the whole food system. They are false dichotomies; the whole food system needs to work together." Robynne Anderson President, Emerging Ag

interactions Recognizing the and dependencies across regional, sectoral, and conceptual boundaries is key for agricultural system planning to have a lasting positive impact. The Alliance, with its combination of economic development staff, planners, council members, and other agricultural stakeholders, provides a venue for discussion about the proper implementation of Ontario's agricultural system. Communication between planners and economic development staff can be particularly fruitful in balancing the need to create new economic opportunities with the need to protect existing assets. The activities of the Alliance's Working Group can foster the sharing of knowledge about these approaches and encourage members to consider the varied ways in which municipal decisions affect the wider agricultural system.

89% of survey respondents agreed that the Alliance should act as a networking hub for land use planning and economic development staff across the Golden Horseshoe.



Agricultural development should not be restricted to prime farmlands in rural areas. There are many opportunities for food production in urban areas as well. Re-use of industrial warehouses and other brownfield sites for greenhouse development and vertical farming operations offer unique possibilities for future development. However, zoning and the corresponding taxation can be barriers. The Alliance (specifically the Working Group) can explore how to use this opportunity for small lot, urban indoor agriculture as an economic development tool.

"Municipalities have lands that aren't being used. There are opportunities for municipalities to fill these industrial or commercial lands. I think that would create a lot of opportunities for students and entrepreneurs. With incentives, there's an opportunity to make this land feasible." Survey Response

Policies should move beyond resource protection and support the development and growth of the agri-food cluster. Key topics for the Alliance to explore include:

- how to best support farms in the Golden Horseshoe interested in diversifying products grown to serve culturally diverse markets,
- strategies to increase local food procurement within the broader public sector,
- how to enable creative on-farm diversified uses with minimal impact to the agricultural
- unique opportunities for redevelopment of vacant lots, including brownfield sites potentially contaminated by previous industrial uses,
- increasing business development opportunities for intensive urban and indoor agriculture, and
- collaborative opportunities with local partners such as OMAFRA, board of trade associations, and chambers of commerce to support work enabling expansion of existing exports and identification of new export markets.





Securing the Region's Agricultural System for Long-term Viability

Future agri-food businesses and groups will need to navigate shifts in trade agreements, consumer demand, and other opportunities and challenges within the industry. In order to do so, the agricultural land base and the associated agricultural system must remain viable assets to continue to grow the cluster. A number of topics related to the agricultural land base and associated agri-food system, including growing conditions, will be important for the Alliance over the next five years."

KEY TAKEAWAYS

- Farmland Prices have become increasingly expensive in recent decades.
- There is constant pressure to convert farmland to other uses in areas across the Golden Horseshoe outside of the Greenbelt, resulting in farmland loss.
- Many farm and food business owners are approaching retirement and are facing challenges related to business transition/succession.
- In near-urban areas, there may be agricultural business opportunities that can use **smaller farm lots** for high-revenue activities engaging urban residents.
- Growth of urban agriculture (such as community gardens and controlled environment agriculture) may create opportunities to grow the sector while posing challenges for policymakers.
- Agritourism creates opportunities for farms across the Golden Horseshoe and requires ongoing policy attention.



3.2.1 Farmland Prices Continue to Rise

Farmland in the Golden Horseshoe continues to increase in price. The average value of farm buildings and land rose by 87% between 2006 and 2016, while the average value across all of Ontario only rose by 15% (Figure 11).36 As well, the value of active farmland per acre was roughly \$16,300 in the Golden Horseshoe in 2016, compared to \$9,600 across Ontario.³⁷

37% of survey respondents named rising farmland prices as one of the top 3 challenges for the Golden Horseshoe agri-food sector.

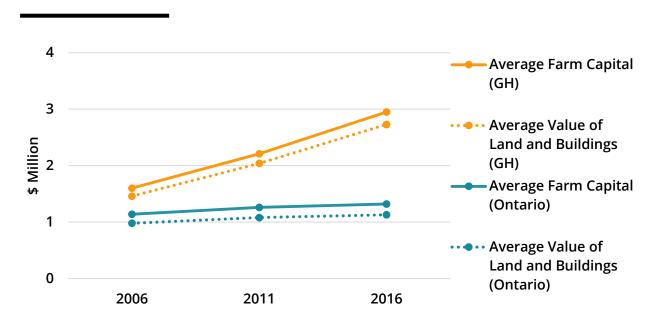


Figure 10. Average farm capital and value of land and buildings in the Golden Horseshoe, compared to the rest of Ontario (\$ Million).

Land banking and speculation occurs when a person or group buys inexpensive farmland and waits for its value to rise, rather than keeping it in production. This, among other factors, can drive farmland prices higher in near-urban areas that are expected to grow.

Rising costs restrict market entry for new farmers and increase tax burdens on existing farmers. Creative solutions to increase farmland access and viability will be necessary to ensure new entrants are able to enter the agri-food sector.

3.2.2 Farmland is Being Lost Across the Golden Horseshoe

The Golden Horseshoe's agricultural land base is under immense pressure for development given its proximity to major urban centers and the need for more housing under the Province's Growth Plan. Between 1996 and 2016, over 637,000 acres of Canada's most productive farmland were lost in the Greater Golden Horseshoe.38 In response, the province implemented the Greenbelt Plan in 2005 to permanently protect a large swath of the agricultural land base in the Golden Horseshoe, along with ecological and hydrological features. Recent studies have shown that the Greenbelt plan has been effective in terms of restricting the conversion of farmland to other uses.³⁹ Any farmland losses after 2005 are due to development approved before the Greenbelt took effect or to new development outside of the Greenbelt.40 This includes the lands between existing urban areas and the Greenbelt boundary (commonly referred to as the "whitebelt") and the countryside outside of the Greenbelt.

Farmland loss must remain at the forefront of planning and development strategies across the Golden Horseshoe over the next five years and beyond. The decreasing amount of farmland is not only a risk for the capacity to grow food in the Golden Horseshoe, but also for the loss of environmental services that farmland, active or inactive, provides. It is estimated that the agricultural soils of the Greenbelt store 40 million tonnes of carbon and contribute to other vital ecosystem services such as habitat for pollinators, nutrient cycling, and biological control (See section 3.3.3).41

"We know that the pressures on the agricultural land base will continue while at the same time, demand for high quality, safe, and nutritious food will continue to increase...The Golden Horseshoe region is an important agri-food cluster for Canada Darlene McBain Manager, Industry Relations Farm Credit Canada

Planning tools can be effective in combatting agricultural land loss. These positive planning practices include:

- defining and mapping the agricultural system, as required by the A Place To Grow: Growth Plan for the Greater Golden Horseshoe and Greenbelt Plans,
- increasing awareness of the integration of the agricultural system and the natural heritage system,
- offering educational opportunities for planners to gain a better understanding of agricultural issues, and
- completing Agricultural Impact Assessments (AIAs) for land use applications involving prime agricultural lands.



3.2.3 Support is Required to Facilitate Agri-Business Transition and Succession

The average age of farmers in the Golden Horseshoe in 2016 was 57.3, over two years higher than the provincial average. In the coming years, farm transitions and succession will be a major challenge. Business transition and succession can also be a challenge in the food processing industry, specifically with respect to abattoirs in the Golden Horseshoe and across the province. Policies and programs tailored to help new entrants and small and medium sized enterprises can help smooth the transition from one owner to the next.

Farm transition emerged as a critical concern in survey feedback. Among respondents, 46% selected farm transition/succession issues as a top challenge facing the agri-food sector—a higher percentage than any other option. The Alliance can be a key enabler in meeting this challenge as it brings together professionals, economic development planners, and other agricultural groups such as the Ontario Federation of Agriculture. Combined, these stakeholders can support transition and succession planning activities across the Golden Horseshoe.

"Most farmers are old. Their big operations are hard for a new farmer to get into, so we end up having all the farms being sold off, and equipment sold off and the knowledge of the farmer is gone. We are losing farms way faster than new ones are being started...In the next 10 years we will lose huge amounts of local production." Survey Response





Starting in Ontario, **FarmLINK.net** is a free online platform that helps connect farm seekers with land opportunities across the country.

3.24 Opportunities are Plentiful for Small Lot Agriculture

Historically, rural land has been divided into standard concessions of 10 lots, with each lot having 100 acres. 42 As time passed, these lots were often severed into smaller lots, in some instances to create housing for retired farm owners. Concerns around land fragmentation led to a shift in policies for rural severances.⁴² The Provincial Policy Statement (PPS) of 1994 actively restricted non-farm lot creation in agricultural areas. While the 2020 PPS still restricts non-farm lot creation, there is some flexibility to provide for surplus farm dwelling severances. However, any new lots must remain large enough to:

- support common agricultural uses in the area, and
- maintain flexibility for a range of future agricultural uses.44

"Farms aren't going to look like they always have. You need to adapt to the market."

- Interviewee

The Greenbelt Plan prevents lot sizes below 100 acres in prime agricultural areas and below 40 acres in specialty crop areas.⁴⁵ While these policies are aimed at preventing land fragmentation and maintaining a viable land base for production, they can also act as barriers for entry to the sector.

Data from the 2016 Censuses of Population and Agriculture show a correlation between Census Division population density and percent of farms under 70 acres in size. 46,47,48 In the Golden Horseshoe, 57% of farms were under 70 acres in size, compared to 28% outside the Golden Horseshoe. In these densely populated areas, there is a viable market for farms under the historical 100-acre threshold. High value production such as mushroom, equine, fruit, nursery, or greenhouse production can generate high revenues on relatively low acreage.⁵⁰ Analysis from 2013 found that one quarter of Canada's small farms had a profit margin of 20% or more, suggesting that small farms can yield profits when properly managed and marketed towards growing opportunities, especially in urban centres.51 These opportunities include markets for diets of new Canadians and a growing interest in local food.

Interviewees suggested that there were opportunities such as small acreage market gardens that exist and could provide access to the sector for new entrants. Innovative lease agreements could also be an opportunity for new farmers to gain access to land while providing revenue for the existing farmer. These opportunities, however, rely on demonstrating that small lot agriculture is not just a hobby but a viable economic driver, and on ensuring that policy continues to maintain the character of rural areas when smaller lots are created.

"There are plenty of great examples of farms who are making a profit and doing [market gardens] well. It would be worth exploring and sharing those case studies, plenty in Canada and lots in America that are happening." - Interviewee

3.2.5 Urban Agriculture can Support a Robust Agri-food Cluster

large fields in rural areas, urban areas can also contribute to agricultural production. Urban agriculture can take multiple forms,⁵² including community gardens, urban or suburban farms, intensive indoor "vertical farming," hydroponic operations, rooftop gardens. These initiatives can supply local food to urban communities, educate urban residents about agriculture and food production, make use of vacant land and infrastructure, and foster social cohesion.53

Some forms of urban agriculture offer ways to reduce the amount of resources needed for production. A Barrie-based vertical farm estimates that it uses 95% less water than a conventional system,⁵⁴ and indoor plant production can reduce the need for pesticides.55 However, the efficiencies of vertical farms are unknown, given their need for electricity, CO2, land area, and interior humidity and temperature controls.56 Regardless, urban agriculture should not be seen as a replacement for conventional production but rather as an additional form of agriculture. Some products are either more efficient when produced in rural areas or pose conflicts in producing them in cities.⁵⁷

While agriculture is often associated with The Golden Horseshoe, and Southern Ontario more broadly, have the capacity to become leaders in urban agriculture. The region hosts a strong innovation and startup environment, and there is an existing concentration of greenhouses in the area. The Canadian Agricultural Partnership also provides financial resources that may benefit this part of the agricultural sector, and it reflects the interest in new advancements in agriculture.58

> Given the unique nature of urban agriculture and its various forms, its status as a form of land use is sometimes unclear.⁵⁹ To allow these new innovations to thrive, local policies must recognize the different forms that urban agriculture can take and allow for flexibility in how lands are used within a city.60 At the same time, managing these new initiatives alongside existing land uses may require responsive community-based planning to adapt over time and reduce land use conflicts.

Urban agriculture can:



Increase local food supply for communities



Educate urban residents about agriculture food



Use vacant or underused lands and infastructure



Foster greater social cohesion within a town or city

3.2.6 Agritourism can Support Diversified Agribusinesses in the Golden Horseshoe

Many farms are exploring diverse agritourism Since agritourism involves new activities on activities which draw both urban and rural residents to visit and explore culinary or other adventure experiences. These activities include pick-your-own farms, equine activities, educational farm visits and corn mazes, or "influencer tourism". Through agritourism, the agri-food sector can engage with youth, new Canadians, and other population segments to expand its audience and provide an entryway into farm life.

Moving forward, policies and regulations that have an impact on agritourism should be reviewed with growth and flexibility in mind.

agricultural land, land use policies can restrict these operations. Flexibility to allow new on-farm diversified uses will be necessary if agritourism operations are to continue engaging the public in novel ways.

There may also be challenges in managing an agritourism operation, and municipal partners in economic development and planning can be key in supporting farmers as they navigate new waters and diversify their income streams.



More than one third (34%) of survey respondents named agritourism as an opportunity for enhancing the agri-food sector's role in helping people and communities

3.3 Food, Farming, and Sustainability

Several global challenges have and will continue to impact the Golden Horseshoe regional food system. For example, the effects of climate change are still unfolding and are expected to increase in the future. Further action is needed to bolster the resilience of the Golden Horseshoe food system to ensure that farms and agri-businesses can respond to future disruptions and complexities.

KEY TAKEAWAYS

- Climate change will impact agriculture in Canada, and municipalities will need to be forward-thinking in how they address this challenge.
- A changing climate may pose problems for agricultural operations but may also create new opportunities in Ontario, making agricultural planning and economic development key tasks in the coming years for climate change adaption and mitigation.
- Farms play an important role in the local ecosystem, and there are opportunities to foster **sustainable farming practices** in the Golden Horseshoe.
- Food insecurity is an ongoing concern in the Golden Horseshoe, and the local food sector has a part to play in addressing this issue.



3.3.1 Municipal Leadership on Climate Change Adaptation and Mitigation

Municipalities are playing a leadership role in their communities to address the challenges brought upon by a changing climate. Municipalities can aid in facilitating adaptive capacity, mitigating the effects of a changing climate, and building resilient systems. In response to the Durham Community Climate Adaptation Plan (2016), for example, Durham Region economic development and planning staff developed the Agricultural Sector Climate Adaptation Strategy. 61

The Strategy outlines a series of actions for municipal partners to support the agricultural sector as it relates to more frequent and severe weather events predicted by its 2049 climate modelling study.

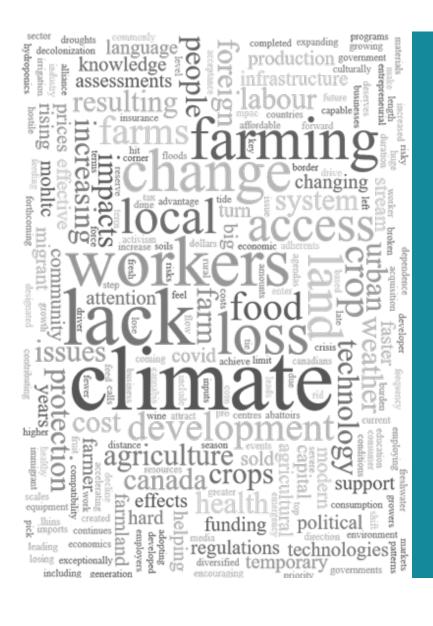
The actions detailed in the strategy centered around objectives such as education and awareness, building research capacity, policy support, and enhancing cross-sectoral municipal services and initiatives (such as roads, food security, human health, etc.).

As a collective with municipal and farm sector leaders, there is an opportunity for the Alliance to ensure municipal partners are supporting their agricultural sector in adapting to a changing climate. The sector has a responsibility to reduce its climate impacts where possible, but it must also prepare for how climate change will impact its operations. These effects remain to be seen, and they may create both new possibilities and challenges for agri-food.



"If the Alliance is taking a strategic position on climate change or has initiatives [regarding climate change], we can be part of that, and take what they're doing from a regional or even national perspective and do it at the local level. [The Alliance] could be a national player".

- Interviewee



Survey results illuminate the need for climate change to be addressed by the Alliance. This word cloud was generated from responses to the open-ended question, "Are there any other challenges that the agri-food sector will face in the next 5-10 years? Please describe." As shown here, the most common responses were related to the future impacts of climate change.

3.3.2 Supporting Climate Change Adaptation and Mitigation Research

Climate change driven by increasing levels of carbon dioxide (CO2) is poised to cause significant disruptions in several countries and industries. It is unclear, though, whether its impact on Canadian agriculture will be negative, positive, or a mix of the two. Warmer temperatures could extend growing seasons,⁶² allowing new crops to be grown in the Golden Horseshoe. However, a warmer climate could also introduce invasive species to Canada, and extreme weather events could damage crops and equipment.63 Warmer summers may also pose problems in keeping animals cool and hydrated.⁶⁴

While climate change will impact agriculture, agriculture also has a role to play in mitigating climate change. Food production presents opportunities to reduce greenhouse gas emissions by reducing food waste and increasing efficiencies in production. Biofuels may offset the use of petroleum-based products, though they likely only have minor potential. Agricultural land removes CO2 from the atmosphere and focusing on practices that increase this will help in reducing overall emissions.65

Canadian research centres are considering these problems in their work. Institutions like the Vineland Research and Innovation Centre are working to develop crop varieties that can withstand pests and disease.66 University of Guelph researchers have also studied the interrelated relationship between agriculture and climate change,⁶⁷ and how the agri-food sector can adapt to future climate impacts.⁶⁸

The Conservation Authorities in the Golden Horseshoe recognize the relationship between good stewardship of agricultural lands and clean water, tree cover and erosion control. Conservation Authorities are key partners in terms of providing on-farm stewardship programs. Ongoing collaboration between the Alliance and the Conservation Authorities within the Golden Horseshoe is critical from an environmental perspective.

In the previous Action Plan, the Alliance recognized the future impact of climate change, particularly through changes in energy prices and use. It also noted the need to track climate trends related to food and farming.⁶⁹ Interviewees shared a variety of viewpoints on the role of the Alliance in addressing climate change and engaging in agri-food research. Some saw this as a focus for the Alliance in the coming years, while others felt this lay beyond the Alliance's mandate.

It appears that the Alliance's capacity and reach could support this research, and the organization could engage in this work to different degrees. There may be ways for the Alliance to help in supplying data and communicating results, rather than directly devoting time or financial resources to these research initiatives.

3.3.3 On-farm Sustainability is key to a Vibrant Sector

Producers in the Golden Horseshoe practice on-farm best management practices to improve environmental outcomes. One way that producers do so is through soil conservation. A Greenbelt Foundation report from 2018 celebrates 15 farm families who actively participate in soil conservation. 70 The report highlights ways that these families are contributing to better soil health, including high density grazing, no till planting, planting cover crops together with production crops, soil "resting," and crop rotations, among other strategies.

Soil health is not the only way that Ontario farmers are stewards of the land. OMAFRA describes the concept of environmental stewardship as "using ecologically sound practices that have neutral or a positive impact on the natural and non-renewable resources used on farm".71 Conservation practices such as naturalizing riparian zones and using smart cattle-watering policies are ways to enhance stewardship.

There is an opportunity for the GHFFA to continue to enhance and strengthen relationships with key stakeholders in the Golden Horseshoe that support on-farm environmental stewardship. This includes but is not limited to the Ontario Farmland Trust, the Greenbelt Foundation, Conservation Authorities, Ecological Farmers of Ontario, the Ontario Soil and Crop Improvement Association, among many others.

The GHFFA's role in this respect may be to support municipal efforts to communicate onfarm best management practices, highlight and showcase impactful approaches and articulate the role of the agricultural sector in environmental stewardship as part of a solution to a changing climate.



"Agri-food strategies and the marketplace require new yardsticks; we need to measure or be measured and leverage those benchmarks to create value and advantage."

 David McInnes Principal, DMci Strategies

3.3.4 Food Insecurity Must be Addressed Collaboratively

The Government of Canada defines a food secure household as one that has access to enough food for all members to have active, healthy lives at all times throughout the year. 72 According to the 2014 Canada Community Health Survey, approximately 6.2% of people in the Golden Horseshoe experience moderate to severe food insecurity.⁷³

Toronto Public Health estimated that 1 in 5 Toronto households were food insecure in 2019, with low income households being at the greatest risk.74

Food insecurity is a complex topic which involves issues ranging from food availability, farm income, food pricing, income inequality, housing costs, and more. In this regard, combatting food insecurity coordination from a wide range of partners including schools, health care institutions, food banks, not-for-profit organizations, academics, governments, and others. Food insecurity is not just an urban issue but is one that extends throughout the more rural areas of the Golden Horseshoe. There may be a role for the Alliance in supporting existing efforts to address this issue.



50% of survey participants consider Increasing community access to safe and affordable local food to be one of the top 3 opportunities to strengthen the agrifood sector in the next 5-10 years.

3.4 Towards 2026

As the Alliance looks ahead to 2026, there is great potential to act on international, regional and local opportunities to grow the agri-food cluster in the Golden Horseshoe. The Action Plan in the following section includes goals, objectives, and action items stemming from the key takeaways above.

To achieve this vision, there are three goals the Alliance will work towards.

- A. The GHFFA is recognized as the leading organization with expertise on food and farming in the Golden Horseshoe Region of Ontario.
- B. Establish the Golden Horseshoe as Canada's leading innovative agriculture and agri-
- C. Enable the agri-food cluster to support sustainability outcomes.



4.0 Action Plan

This Action Plan includes a set of goals, objectives, and actions that will guide the core activities of the Alliance over the 2021-2026 timeframe. Alliance staff, in collaboration with Working Group members, are responsible for implementing this plan. Ultimately, they are accountable to the Board of the Alliance, and then back to member municipalities. The Alliance reports on the progress towards the Action Plan annually to their board, the five regional Councils, City of Hamilton Council and City of Toronto Council.

How to Read this Action Plan

The action plan is broken down into 3 overarching goals. The goals are derived from engagement results with key stakeholders about where they think the Alliance should be in 5 years. Each goal has its own roadmap to demonstrate how the Alliance will work towards desired outcomes. The goals are broken down into objectives that help meet that goal, and actions that complete the objective. Beside each action in the table, there are columns that indicate how success will be measured. This includes when an action should be completed by, who the lead should be, and partners and collaborators to consider.



The actions under each objective are broken down into three key Alliance roles. The Alliance roles are identified throughout the Action Plan using these three icons:



Knowledge sharing



Strengthening regional policy and opportunities for sector growth



Expanding/ strengthening networks





In some instances, partnerships should be sought to lead the action items. An Alliance lead action item is indicated with a checkmark; however, it is implied that there will be some level of collaboration in most of the action items. To indicate seeking out a potential partner to lead the action item, a handshake icon is used.



Alliance leadership



Partnership or collaboration



The Vision

The Golden Horseshoe is globally renowned as a vibrant and sustainable agri-food cluster, characterized by profitable farming operations of all sizes, a thriving hub of food processing and food retail, extensive research capacity, and innovative technology.

GOAL A:

The GHFFA is recognized as the leading organization with expertise on food and farming issues and opportunities in the Golden Horseshoe Region of Ontario.

- Achieve organizational excellence.
- Advocate on behalf of the food and farming sector in the Golden Horseshoe

GOAL B:

Establish the Golden Horseshoe as Canada's leading innovative agriculture and agri-food cluster.

- Grow the cluster via networking and relationship building.
- Enable municipal and other agri-food cluster stakeholders to enhance data-driven decision making across the Golden Horseshoe.
- Foster research and innovation.

GOAL C:

Enable the agri-food cluster to support sustainability outcomes.

- Enhance the economic capacity of agriculture and agri-food cluster in the Golden Horseshoe.
- Enhance the capacity for the agri-food cluster in the Golden Horseshoe to contribute to public health outcomes.
- Support ongoing climate change adaptation and mitigation initiatives and foster collaborations that position the agriculture and food and beverage manufacturing sectors as leaders in sustainability.



ACTIONS | A.1 - Achieve Organizational Excellence



Lead/Support GHFFA Staff and Board

Potential Partners & Collaborators **Greenbelt Foundation**

Timeline

Jan 2021- Jun 2021

Develop an operational manual to refine and confirm the governance structure, financial sustainability, and organizational roles and responsibilities. The operational manual should include updates to the Board and Working Group Terms of Reference and incorporate equity, diversity, and inclusion goals.



ACTION | A.1.2

GHFFA Staff and Working Group

Potential Partners & Collaborators Greenbelt Foundation

Timeline

Iul 2021- Dec 2021

Develop and execute a Communications Strategy, subdivided for 3 audiences: Internal Stakeholders (the working group and board), External Stakeholders, and Government Relations. Ensure that communication continues to be a core component of Alliance operations.



ACTION | A.1.3

Lead/Support GHFFA Staff and Board Potential Partners & Collaborators Alliance Board

Timeline

Jan 2021- Dec 2021

Develop a formal letter of commitment template to be signed by each member municipality and partner. This letter should demonstrate commitment to the agri-food sector through involvement in the Alliance. Signatories should include the Chair of the Board of the Alliance, and the appropriate signatory (i.e. the Mayor, Executive Director of partner organizations, etc.)



GHFFA Staff

ACTION | A.1.4

Lead/Support

Potential Partners & Collaborators

Working Group

Timeline

Each AGM from 2021-2026

Use the Annual General Meeting as an opportunity to celebrate wins, report on outcomes and enhance relationship building with existing and new collaborators by expanding attendance to over 100 people representing a broad range of stakeholders across the Golden Horseshoe, from researchers, to innovators and investors, municipal partners, conservation authorities, other ministries and provincial leaders, farmers, and more.

ACTIONS | A.2 - Advocate on behalf of the agri-food cluster in the Golden Horseshoe



Lead/Support GHFFA Staff and Working Group

Potential Partners & Collaborators Greenbelt Foundation, OMAFRA

Timeline Anually beginning March 2022

Collaborate with Alliance members to design and implement a series of workshops (up to 5) and roundtables (2) to elevate the agri-food cluster in the Golden Horseshoe. (See action items, B.1.1, B.1.2, B.1.3, B.2.3, C.1.5).





ACTION | A.2.2

Lead/Support GHFFA Staff and Working Group Potential Partners & Collaborators **Greenbelt Foundation**

Timeline Anually beginning Jan 2021

Collaborate with Alliance members to develop short, plain language position papers to be published annually to support the agri-food sector in the Golden Horseshoe (up to 5). These position papers should bring forward the latest research and examples of innovative policies aimed at supporting a thriving and dynamic agri-food supply chain. They may include papers responding to policy challenges, or proactive papers based on emerging opportunities. For example, one of the position papers should explore land tenure agreements that provide entrepreneurial opportunities for new entrants to the farm and food sector.



Lead/Support **GHFFA Staff**

Potential Partners & Collaborators

Timeline Jan 2021 - Dec 2022

Engage with the Canadian Chamber of Commerce Agriculture and Agri-food Policy Committee, Canadian Agri-food Policy Institute, Arrell Food Institute, Bioenterprise, the TCI Network, Agriculture and Agri-food Canada and other similar organizations to enhance the national presence of the Golden Horseshoe agri-food cluster. For example, **Foodvalley** in the Netherlands is a nationally-recognized agri-food cluster.

ACTIONS | A.2 - Advocate on behalf of the agri-food cluster in the Golden Horseshoe



Lead/Support

GHFFA Staff and Working Group

Potential Partners & Collaborators

Alliance Board

Timeline

Anually beginning in 2021

Organize regular Queen's Park Days or similar events to highlight how the agri-food sector in the Golden Horseshoe is an economic driver in Ontario.



Lead/Support Alliance Board

Potential Partners & Collaborators

Working Group

Timeline

Jan 2021 - Dec 2026

Advocate for expanding access to high-speed internet to enhance equity in economic opportunity linking rural and urban communities in the Golden Horseshoe.



Lead/Support

Alliance Board & Working Group

Potential Partners & Collaborators

GHFFA Staff

Timeline

Jan 2021 - Dec 2026

Continue to ensure municipal partners (including single, upper and lower-tier municipalities) in the Golden Horseshoe have committed planning and economic development staff roles with a focus on the agri-food sector. Encourage interdepartmental collaboration at the municipal level beyond economic development and planning to support the agri-food cluster and continue to collaborate across municipalities.

Goal A: ROADMAP

The GHFFA is recognized as the leading organization with expertise on food and farming issues and opportunities in the Golden Horseshoe Region of Ontario.

Inputs

- Working Group and Alliance Board Time (Meetings)
- Alliance Staff Time
- Partnership contributions
- Knowledge and Expertise



Outputs

- Operational Manual
- Communications Strategy
- Memorandums of Understanding
- AGM with 150 Attendees
- Formalized reporting Procedure
- Workshops and Roundtables
- Annual Position Papers
- Regular Queen's Park Days
- External Meetings
- Municipal staff dedicated to Food and Farming Economic Development





Outcomes

Short-term

- Increased internal communication between Working Group members, the Board, and Alliance staff
- Increased advocacy presence at the provincial and federal levels

Medium-term

- Organizational excellence with effective internal and external communication
- Increased municipal recognition of Alliance value

Long-term

The Alliance is recognized as the leading organization for agriculture and agri-food expertise in the Golden Horseshoe.

GOAL B:

Establish the Golden Horseshoe as Canada's leading innovative agriculture and agri-food cluster.

The Golden Horseshoe provides significant contributions to the agrifood sector in Ontario The Golden Horseshoe region is home to over one million acres of prime farmland including two important specialty crop areas.

It is also home to 52% of Ontario's agri-food sector jobs and 61% of Ontario's food and beverage processing businesses. The Alliance has a role to play in positioning Canada's agriculture and agri-food sector as a leading innovator.

ACTIONS | B.1 - Grow the cluster via networking and relationship building



Timeline Lead/Support Potential Partners & Collaborators

Working Group See Below Jan 2022 - Dec 2026

Collaborate to convene and host roundtable discussions with Golden Horseshoe municipalities, the Ministry of Agriculture, Food and Rural Affairs, and food manufacturing industry leaders on the opportunities and challenges to expand agri-food manufacturing in the Golden Horseshoe.

Potential Partners & Collaborators

Food and Consumer Products Canada Hamilton-Oshawa Port Authority (HOPA) **OMAFRA**

Food manufacturing companies





ACTION | B.1.2

Lead/Support Potential Partners & Collaborators Timeline

Working Group See Below Dec 2023 - Dec 2026

Host roundtable discussions on the opportunities for agri-food entrepreneurship "centres of excellence" across the Golden Horseshoe.

Potential Partners & Collaborators

Durham College Vineland Research and Innovation Centre Niagara College Holland Marsh Research Station

The University of Guelph Meat and Poultry Ontario, Canadian Food Innovation Network

George Brown College District Ventures Kitchen

York University Yspace Other groups spurring innovation in the agri-food sector.





ACTION | B.1.3

Potential Partners & Collaborators Lead/Support Timeline See Below

Working Group Dec 2023 - Dec 2026

Host a workshop to bring together automation engineers, software developers, and primary production to network and expand opportunities to develop innovative food and on-farm technologies (e.g. robotics, artificial intelligence, sensors, etc.).

Potential Partners & Collaborators Vineland Research and Innovation Centre Farm Organizations Post-secondary institutions



ACTIONS | B.1 - Grow the cluster via networking and relationship building



ACTION | B.1.4

Lead/Support Working Group

Potential Partners & Collaborators

See Below

Timeline

Jan 2022 - Dec 2026

Host 2-3 cross-municipal business to business networking events resulting in partnership opportunities for farm, agri-food, and restaurants/food service businesses across the Golden Horseshoe. Consider inviting an engaging speaker of interest to farm businesses and retailers to attract interest.

Potential Partners & Collaborators

Chambers of Commerce across the Golden Horseshoe and Greater Golden Horseshoe

Business development stakeholders representing Black, Indigenous and people of colour (BIPOC) in the Golden Horseshoe

Municipal Economic Development Staff







ACTION | B.1.5

Lead/Support Working Group

Potential Partners & Collaborators Durham College Centre for Food

Timeline

Jan 2022 - Mar 2023

Showcase opportunities in the Golden Horseshoe for intensive market garden, urban agriculture and urban farming business development. Begin by hosting an Alliance Board and Working Group meeting at Durham College Centre for Food.



ACTION | B.1.6

Lead/Support Working Group

Potential Partners & Collaborators Feed Your Future, Golden Horseshoe Workforce **Development Boards**

Timeline

Jan 2021- Dec 2024

Support initiatives that promote agri-food sector employment by hosting 2-4 series of Feeding Your Future career fairs within each of the Golden Horseshoe regions/cities.





ACTION | B.1.7

Lead/Support Working Group

Potential Partners & Collaborators Ministry of Labour, Training, Skills & Development Timeline

Jan 2021- Dec 2024

Explore funding and/or training/skills development opportunities that exist within the Ministry of Labour, Training and Skills Development relevant for agri-food cluster development.

ACTIONS | B.2 Enable municipal and other agri-food cluster stakeholders to enhance data-driven decision making across the Golden Horseshoe.





ACTION | B.2.1

Lead/Support ConnectON

Potential Partners & Collaborators Food & Consumer Products of Canada

Timeline

Jan 2022 - Dec 2023

Develop an economic snapshot of the agri-food sector in the Golden Horseshoe that includes labour market data to attract agri-food manufacturing opportunities to the Golden Horseshoe.



ACTION | B.2.2

Lead/Support ConnectON

Potential Partners & Collaborators Working Group, OMAFRA

Timeline

Jan 2021 - Dec 2026

Explore the opportunity to develop open and/or fee-based access portals within the ConnectON tool. Continue to build on opportunities for collaboration with the Agricultural System Portal.





ACTION | B.2.3

Lead/Support ConnectON

Potential Partners & Collaborators Working Group, OMAFRA

Timeline

Ian 2021- Dec 2026

Host 1-2 mapping workshops by 2026 to teach interested municipal partners about the full suite of ConnectON asset mapping capabilities to foster economic development activity. Workshops may be virtual and consist of a combination of formal presentations and hands-on peer-to-peer learning opportunities. Municipal partners can include those within the Golden Horseshoe and elsewhere in Ontario.





ACTION | B.2.4

Lead/Support ConnectON

Potential Partners & Collaborators Working Group, OMAFRA

Timeline

Jan 2021- Dec 2026

Showcase a series of aggregated data products for the Golden Horseshoe region, and Ontario more broadly. This may include labour market data (see also action item B.2.1), incubator/innovation spaces, or data pulled to inform timely policy conversations. The aggregated data products could be turned into infographics or briefs for GHFFA members to share with their networks.

ACTIONS | B.3 - Foster Research & Relationship Building



ACTION | B.3.1

Lead/Support Working Group

Potential Partners & Collaborators

See Below

Timeline

Jan 2022 - Dec 2026

Foster research that facilitates import replacement opportunities and market development strategies by enabling regional farms to experiment with growing culturally relevant foods.

Potential Partners & Collaborators **Greenbelt Foundation** Farmers and farm organizations Vineland Research and Innovation Centre





ACTION | B.3.2

Lead/Support GHFFA Staff & Working Group

Potential Partners & Collaborators See Below

Timeline

Jan 2021 - Dec 2026

Grow the uptake of the Serving Up Local project by expanding the project within long term care facilities across the Golden Horseshoe and including other broader public sector opportunities.

Potential Partners & Collaborators

Greenbelt Fund

Other municipal partners (i.e. long-term care facilities, University of Guelph and other post-secondary institutions)





ACTION | B.3.3

Lead/Support Greenbelt Foundation & Working Potential Partners & Collaborators See Below

Timeline

Jan 2021- Dec 2026

Support the expansion of locally grown and processed fruits and vegetables in the Golden Horseshoe by enabling progress towards the actions identified in the 2020 Plant the Seeds report.

Potential Partners & Collaborators Agriculture and Agri-Food Canada Ontario Ministry of Agriculture Food and Rural Affairs Vineland Research And others



ACTIONS | B.3 - Foster Research & Relationship Building





ACTION | B.3.4

Lead/Support Working Group

Potential Partners & Collaborators Meat & Poultry Ontario

Timeline

Jan 2022 - Dec 2026

Support activities that offer opportunities to grow the meat and poultry processing capacity in the Golden Horseshoe and surrounding areas, focusing on small and medium enterprises.



ACTION | B.3.5

Lead/Support Working Group

Potential Partners & Collaborators

See Below

Timeline

Jan 2022 - Dec 2026

Explore creative uses of existing serviced land in urban areas in the Golden Horseshoe for production that may include small-scale intensive production opportunities and/ or community gardens (e.g. greenhouses, tech-hubs, agri-food corridors, intensive controlled environment gardens, and as regenerative projects in brownfield areas).

Potential Partners & Collaborators Greenbelt Foundation Municipal Economic Development and planning staff







ACTION | B.3.6

Lead/Support Working Group

Potential Partners & Collaborators Greenbelt Foundation & Fund

Timeline

lan 2022- Dec 2026

Investigate regional opportunities to develop, invest in and/or incentivize creative re-use of existing infrastructure to support food incubators, accelerators, commercial kitchens³, ghost kitchens, and packaging facilities. (See B.1.3)



ACTION | B.3.7

Lead/Support **Working Group**

Potential Partners & Collaborators

Timeline

Jan 2024- Dec 2024

Encourage the development of a "catalogue" of definitions for the various creative and innovative uses associated with urban agriculture. Definitions may include urban agriculture, urban farm, urban garden, peri-urban agriculture, vertical farming, etc.4

³ Ghost kitchens are an emerging way for food companies to do business. In this model, restaurants and other food service providers do not have a storefront but rather, prepare foods in a kitchen and deliver straight to your door. This has become particularly popular during the pandemic. For more on ghost kitchens, see this article, <u>here.</u>

[&]quot;The City of Atlanta's "Aglanta" initiative has a webpage describing these definitions and more. There is an opportunity for the Alliance to lead similar work across the Golden Horseshoe. https://www.aglanta.org/

Goal B: ROADMAP

Establish the Golden Horseshoe as Canada's leading innovative agriculture and agri-food cluster.

Inputs

- Working Group and Alliance Board Time (Meetings)
- Alliance Staff Time
- Time contributions from guest speakers
- Finances/Project Capacity
- Partnership contributions
- Knowledge and Expertise



Outputs

- Roundtables
- Workshops
- **Networking Events**
- 1-on-1 Meetings
- Career Fairs
- Research
- **Devoted Working Group** meetings
- Catalouge of definitions
- Regional Labour market data
- Series of Aggregated Data products





Outcomes

Short-term

- Growth in Alliance's network of outside organizations
- Increased municipal awareness of agriculture
- Increased municipal awareness of agri-food sector economic impact , challenges and opportunities
- Increased capacity for data use

Medium-term

- Increased datadriven decision making
- Increased business opportunities
- Increased opportunities for research and development
- Increased Collaboration among Golden Horseshoe agribusinesses

Long-term

The Golden Horseshoe becomes Canada's leading innovative agriculture and agrifood cluster



ACTIONS | C.1 - Enhance the economic capacity of agricultural land in the Golden Horseshoe.





ACTION | C.1.1

Lead/Support **GHFFA Staff & Working Group** Potential Partners & Collaborators

Timeline

lan 2021 - Dec 2026

Maintain regular Working Group meetings as a space to collaborate and align land use policy and economic development topics and best practices from a food systems perspective.



Lead/Support Working Group

Potential Partners & Collaborators See Below

Timeline

Ian 2021 - Dec 2026

Strengthen collaborative opportunities with OMAFRA to provide expert advice in the review of land use policy tools, documents, and amendments, and develop connections with the Ministry of Municipal Affairs and Housing to ensure Alliance input regarding provincial planning policy.

Potential Partners & Collaborators Ontario Ministry of Agriculture, Food, and Rural Affairs Ministry of Municipal Affairs and Housing





Lead/Support Working Group

Potential Partners & Collaborators See Below

Timeline

Jan 2021 - Dec 2026

Continue to collaborate with the OMAFRA regional economic development staff to support strong regional-provincial connections and forge new collaborations with other provincial and federal groups such as the Department of Innovation, Science and Economic Development; Ministry of Environment, Conservation and Parks; Environment and Climate Change Canada, Agriculture and Agri-food Canada and Ministry of Finance.

Potential Partners & Collaborators

Ontario Ministry of Agriculture, Food, and Rural Affairs, Innovation, Science and Economic Development

Ministry of Environment, Conservation, and Parks

Ministry of Finance



ACTIONS | C.1 - Enhance the economic capacity of agricultural land in the Golden Horseshoe.





ACTION | C.1.4

Lead/Support Working Group

Potential Partners & Collaborators Alliance Board, Greenbelt Foundation

Timeline Jan 2021 - Dec 2026

Share best practices and lessons learned to encourage consistent treatment of the onfarm diversified uses as defined in A Place to Grow, the Greenbelt Plan, and OMAFRA guidelines across the Golden Horseshoe.





ACTION | C.1.5

Lead/Support Working Group

Potential Partners & Collaborators See Below

Timeline

Jan 2023 - Dec 2026

Identify a partner to host 2-3 educational workshops to address farm and business succession/transition issues.

Potential Partners & Collaborators Farm Management Canada Farm Credit Canada Canadian Association of Farm Advisors Ontario Federation of Agriculture





ACTION | C.1.6

Lead/Support Working Group

Potential Partners & Collaborators See Below

Timeline

Jan 2021 - Dec 2026

Support cross promotion of agritourism activities across the Golden Horseshoe and explore opportunities to develop regional agritourism activities such as 'Farm Fresh' initiatives and 'Culinary Trails'.

Potential Partners & Collaborators

Greenbelt Foundation Ontario Farm Fresh Marketing Association Local 'farm fresh' organizations

Regional Tourism Organizations (RTO's) for the Golden Horseshoe



ACTIONS | C.2 Enhance the capacity for agricultural land in the Golden Horseshoe to contribute to public health outcomes.



Lead/Support Working Group

Potential Partners & Collaborators Municipal Public Health Stakeholders

Timeline Jan 2022 - Dec 2026

Invite public health staff from each member municipality to participate in an annual Working Group meeting to discuss food access initiatives and GHFFA work.







ACTION | C.2.2

Lead/Support Working Group

Potential Partners & Collaborators Alliance Board

Timeline

Jan 2021 - Dec 2026

Monitor the activities of local food policy councils and efforts to enact food charters and strategies from food access and availability perspectives. Participate in regional initiatives as needed and consider the **National Food Policy** priority outcomes in Alliance activities.





🚣 🚱 ACTION | C.2.3

Lead/Support Working Group

Potential Partners & Collaborators See Below

Timeline

Jan 2022 - Dec 2026

Discuss opportunities for incentives to remove business/enterprise development barriers for small-scale urban agriculture and community gardens across the Golden Horseshoe within urban areas, specifically with respect to publicly-owned land. (See also B.3.5)

Potential Partners & Collaborators

Greenbelt Foundation Rouge National Urban Park Urban agri-businesses Other relevant stakeholders



ACTIONS | C.3

Support ongoing climate change adaptation and mitigation initiatives and foster collaborations that position the agriculture and food and beverage manufacturing sectors as leaders in sustainability.



Lead/Support Potential Partners & Collaborators **GHFFA Staff** Jan 2021 - Dec 2026 See Below

Help position the farm and food sector within the Golden Horseshoe as a leader in meeting sustainability metrics by networking with the National Index Project and the Canadian Agri-food Sustainability Initiative.

Potential Partners & Collaborators National Index Project Canadian Agri-food Sustainability Initiative





ACTION | C.3.2

Lead/Support Potential Partners & Collaborators Timeline Working Group See Below Jan 2021 - Dec 2026

Continue to support the ongoing activities of organizations such as the OSCIA and Conservation Authorities in their work to promote and encourage the adoption of environmental stewardship best management practices across the Golden Horseshoe. For example, this may include promoting OSCIA environmental farm plan workshops amongst farm businesses in the Golden Horseshoe.

Potential Partners & Collaborators Ontario Soil and Crop Improvement Association Conservation Authorities. Ontario Farmland Trust **Ecological Farmers of Ontario** Among others







ACTION | C.3.3

Lead/Support Potential Partners & Collaborators Timeline Greenbelt Foundation Working Group Jan 2022 - Dec 2026

Provide support for all municipal partners to develop climate change mitigation and adaptation strategies for agriculture by sharing good practices for developing and implementing climate change adaptation and mitigation strategies in the Working Group priorities for 2022-2026.

Goal C: ROADMAP

Enable the agri-food cluster to support sustainability outcomes.

Inputs

- **Working Group Time** (Meetings)
- Alliance Staff Time
- Time contributions from guest speakers
- Finances/Project Capacity
- Partnership contributions
- Knowledge and Expertise



Outputs

- **Partnerships**
- Workshops
- **Devoted Working Group** Meetings
- **Policy Changes**
- Support for existing projects/events
- Promotion of existing resources





Outcomes

Short-term

- More opportunities for new farmers
- Continued protection for the Golden Horseshoe's agricultural land base
- Stronger Alliance influence in provincial policy
- Stronger municipal policies and initiatives to support agri-food
- Greater agri-food engagement in climate/ sustainability initiatives at the local and industry levels

Medium-term

- Enhanced economic capacity in the Golden Horseshoe Agri-food cluster
- Enhanced capacity for the Golden Horseshoe agrifood cluster to improve social outcomes
- Positioning Canada as a leader in sustainable agricultural practices

Long-term

The Golden Horseshoe agri-food cluster supports sustainability outcomes

- ¹Ontario Ministry of Agriculture, Food, and Rural Affairs. (2016). Golden Horseshoe Business profile [Microsoft Excel Spreadsheet]. Government of Ontario. Retrieved from http://www.omafra.gov.on.ca/english/stats/county/gldh.xlsx
- ² Adapted from Ontario Ministry of Agriculture, Food, and Rural Affairs. (2020). Ontario Gross Domestic Product (GDP) for Agri-Food Sector, 2008-2018 (\$ million) [Microsoft Excel spreadsheet]. Government of Ontario. Retrieved from http:// www.omafra.gov.on.ca/english/stats/economy/index.html.
- ³ Ontario Ministry of Agriculture, Food, and Rural Affairs. (2020). Golden Horseshoe business profile [Microsoft Excel spreadsheet]. Government of Ontario. Retrieved from http://www.omafra.gov.on.ca/english/stats/county/gldh.xlsx
- ⁴Díaz Pinsent Mercier Research Inc. (January 2019). Labour Market Information For Ontario's Food And Beverage Processing Industry. Retrieved from http://foodandbeverageontario.ca/uploads/resources/files/ontario-Imi-report-finaljan2019.pdf.
- ⁵ Adapted from Ontario Ministry of Agriculture, Food, and Rural Affairs. (2020). Business Profile [Microsoft Excel spreadsheet]. Government of Ontario. Retrieved from http://www.omafra.gov.on.ca/english/stats/county/gldh.xlsx
- ⁶ Díaz Pinsent Mercier Research Inc. (2019). Labour Market Information For Ontario's Food And Beverage Processing Industry. Retrieved from http://foodandbeverageontario.ca/uploads/resources/files/ontario-lmi-report-final-jan2019. pdf.
- ⁷Adapted from Ontario Ministry of Agriculture, Food, and Rural Affairs. (2020). Business Profile [Microsoft Excel spreadsheet]. Government of Ontario. Retrieved from http://www.omafra.gov.on.ca/english/stats/county/gldh.xlsx
- Ontario Ministry of Municipal Affairs & Housing. (2019). A place to grow: Growth plan for the Greater Golden Horseshoe. Government of Ontario. Retrieved from https://files.ontario.ca/mmah-greater-golden-horseshoe-place-to-growenglish-15may2019.pdf
- ⁹Geerts, H., & Churchyard, A. (2020). Implementation procedures for the agricultural system in Ontario's Greater Golden Horseshoe. Ontario Ministry of Agriculture, Food, and Rural Affairs. Retrieved from http://www.omafra.gov.on.ca/ english/landuse/imp2019.pdf
- ¹⁰ Geerts, H., & Churchyard, A. (2020). Implementation procedures for the agricultural system in Ontario's Greater Golden Horseshoe. Ontario Ministry of Agriculture, Food, and Rural Affairs. Retrieved from http://www.omafra.gov.on.ca/ english/landuse/imp2019.pdf
- ¹¹ Porter, M. E. (1998). Clusters and the new economics of competition (Vol. 76, No. 6, pp. 77-90). Boston: Harvard Business Review.
- ¹² Porter, M. E. (1998). Clusters and the new economics of competition (Vol. 76, No. 6, pp. 77-90). Boston: Harvard Business Review.
- ¹³ Advisory Council on Economic Growth. (2017). Unleashing the growth potential of key sectors. Retrieved from: https:// www.budget.gc.ca/aceg-ccce/pdf/key-sectors-secteurs-cles-eng.pdf
- 14 Standing Senate Committee on Agriculture and Forestry. (2019). Made in Canada: Growing Canada's value-added food sector. Retrieved from: https://sencanada.ca/en/info-page/parl-42-1/agfo-made-in-canada/
- ¹⁵ Viviano, F. (2017). This tiny country feeds the world. National Geographic, 232(3), 82-109.
- ¹⁶ Skillicorn, N. (2018, Dec. 17). How the Netherlands has innovated agriculture to become the world's #2 exporter of food. Idea to Value. Retrieved from https://www.ideatovalue.com/curi/nickskillicorn/2018/12/how-the-netherlandshas-innovated-agriculture-to-become-the-worlds-2-exporter-of-food/
- ¹⁷ Foodvalley. (n.d.). Foodvalley. Retrieved from https://www.foodvalley.nl/agrifood-ecosystem/foodvalley/
- ¹⁸ Weissman, R. (2020, March 24). Today's supply chains are too lean. Supply Chain Dive. Retrieved from https://www. supplychaindive.com/news/lean-supply-chain-jit-inventory-covid-19/574693/
- ¹⁹ Emmanuel, R. (2020, May 15). Opportunity to re-think food production in Canada amid COVID-19: Report. iPolitics. Retrieved from https://ipolitics.ca/2020/05/15/opportunity-to-re-think-food-production-in-canada-amid-covid-19report/
- ²⁰ Ontario Ministry of Agriculture, Food, and Rural Affairs. (2016). Golden Horseshoe Ag Stats [Excel Spreadsheet]. Government of Ontario. Retrieved from http://www.omafra.gov.on.ca/english/stats/county/gldh.xlsx
- ²¹ Canadian Pacific Railway (2020). CP's North American Rail Map. Retrieved from: https://www.cpr.ca/en/choose-rail/ network-and-facilities
- ²² Canadian National Railway. Maps and Network. Interactive Rail Map. Accessed via: https://cnebusiness.geomapguide. ca/?map=TL&lang=en
- ²³The Port of Toronto. Interactive Map. Retrieved from: https://www.portstoronto.com/interactivemap/port/index.html

- ²⁴The City of Port Coulbourne. Port Coulbourne's Multimodal Port Facilities. Accessed via: http://portcolborne.ca/page/ port facilities
- ²⁵ Hamilton Oshawa Port Authority. Port Maps. Accessed via: https://www.hopaports.ca/port-map/
- ²⁶ Fagerberg, J. (2018). Mission (im)possible? The role of innovation (and innovation policy) in supporting structural change & sustainability transitions. In TIK WORKING PAPERS on innovation studies No. 20180216. https://www.sv.uio. no/tik/InnoWP/tik_working_paper_20180216.pdf
- ²⁷ OECD. (2016). Better policies for 2030. An OECD action plan on the sustainable development goals. Retrieved from https://www.oecd.org/dac/Better%20Policies%20for%202030.pdf
- ²⁸ Agricultural Institute of Canada. (2018, April). An overview of the Canadian agricultural innovation system.
- ²⁹ Government of Canada. (2019). Achieving a sustainable future: A federal sustainable development strategy for Canada 2019 to 2022. Retrieved from http://fsds-sfdd.ca/downloads/FSDS 2019-2022.pdf
- ³⁰ Golden Horseshoe Food & Farming Alliance. (2016). Analysis of food and farming assets in the Greater Golden Horseshoe. Golden Horseshoe Food & Farming Alliance. Retrieved from http://www.foodandfarming.ca/custom/ uploads/2016/08/GGH-Analysis-of-Food-and-Farming-Assets-March-31 2016.pdf
- ³¹ Royal Bank of Canada. (2019). Farmer 4.0: How the coming skills revolution can transform agriculture. Retrieved from: https://thoughtleadership.rbc.com/farmer-4-0-how-the-coming-skills-revolution-can-transform-agriculture/.
- ³² Canadian Agricultural Human Resource Council. (2019). How labour challenges will shape the future of agriculture: Agriculture forecast to 2029. Retrieved from: https://cahrc-ccrha.ca/sites/default/files/CAHRC-National-Report-FINAL-August-19-2019.pdf
- ³³ Geerts, H. (2014), Guidelines on permitted uses in Ontario's prime agricultural areas, Ontario Ministry of Agriculture, Food, and Rural Affairs. Retrieved from http://www.omafra.gov.on.ca/english/landuse/facts/permitteduseguide.pdf
- ³⁴ Geerts, H., & Churchyard, A. (2020). Implementation procedures for the agricultural system in Ontario's Greater Golden Horseshoe. Ontario Ministry of Agriculture, Food, and Rural Affairs. Retrieved from http://www.omafra.gov.on.ca/ english/landuse/imp2019.pdf
- 35 Hansen, E., & Tatebe, K. (2020). Planning for food systems: Webinar for the Canadian Institute of Planners [PowerPoint slides]. Institute for Sustainable Food Systems at Kwantlen Polytechnic University. Retrieved from https://www.cip-icu. ca/getattachment/Special-Pages/CIP-2020-CPL-Program/CIPFood-Systems-Planning-Webinar Final.pdf.aspx
- ³⁶ Adapted from Ontario Ministry of Agriculture, Food, and Rural Affairs. (2020). Ag census over time [Microsoft Excel spreadsheet]. Government of Ontario. Retrieved from http://www.omafra.gov.on.ca/english/stats/county/gldh.xlsx
- ³⁷ Adapted from Ontario Ministry of Agriculture, Food, and Rural Affairs. (2020). Ag census over time [Microsoft Excel spreadsheet]. Government of Ontario. Retrieved from http://www.omafra.gov.on.ca/english/stats/county/gldh.xlsx
- ³⁸ Total Greater Golden Horseshoe Farmland in Acres, Statistics Canada 2017b
- ³⁹Epp, S. & Caldwell, W. (2018). Measuring farmland loss: Lessons from Ontario, Canada. WIT Transactions on Ecology and the Environment, 215, 165-175. doi:10.2495/EID180151
- ⁴⁰ Caldwell, W., Epp, S., & Newlands, J. (2017, March 30). Measuring farmland conversion in Ontario: Quantifying farmland loss through official plan amendments [PowerPoint slides]. University of Guelph & Ontario Farmland Trust. Retrieved from https://ontariofarmlandtrust.ca/wp-content/uploads/2016/11/Measuring-Farmland-Conversion-in-Ontario.pdf
- ⁴¹ Greenbelt Foundation (2008). Ontario's wealth, Canada's future: Appreciating the value of the Greenbelt's eco-services. The David Suzuki Foundation. Retrieved from: https://davidsuzuki.org/wp-content/uploads/2018/02/ontario-wealthcanada-future-value-greenbelt-eco-services.pdf
- ⁴² McIlwraith, T.R. (2015). Concession line. In Historica Canada, The Canadian Encyclopedia. Retrieved from https://www. thecanadianencyclopedia.ca/en/article/concession-line
- ⁴³ Caldwell, W., Dodds-Weir, C., & Eckert, A. (2012). Lot creation in Ontario's agricultural landscapes: Trends, impacts, and policy implications. School of Environmental Design and Rural Development, University of Guelph. Retrieved from http:// www.waynecaldwell.ca/Projects/ruralnonfarmrevisit/Impact%20of%20RNF%20Development%20on%20Agriculture%20 -%20Final%20Lit%20Review.pdf
- ⁴⁴Ontario Ministry of Municipal Affairs and Housing. (2020). Provincial policy statement, 2020. Government of Ontario. Retrieved from https://files.ontario.ca/mmah-provincial-policy-statement-2020-accessible-final-en-2020-02-14.pdf
- ⁴⁵Ontario Ministry of Municipal Affairs. (2017). Greenbelt plan (2017). Government of Ontario. Retrieved from https:// files.ontario.ca/greenbelt-plan-2017-en.pdf
- 46 Statistics Canada. Table 17-10-0009-01 Population estimates, quarterly. DOI: https://doi. org/10.25318/1710000901-eng

- ⁴⁷Statistics Canada. Table 32-10-0156-01 Farms classified by size, historical data. DOI: https://doi. org/10.25318/3210015601-eng
- ⁴⁸Correlation of 0.66, p-value < 0.01.
- ⁴⁹ Ontario Ministry of Agriculture, Food, and Rural Affairs. (2020). Golden Horseshoe business profile. Government of Ontario. Retrieved from http://www.omafra.gov.on.ca/english/stats/county/gldh.xlsx
- ⁵⁰ Halton Region. (2016). Halton Region rural agricultural strategy. Halton Region. Retrieved from https://www.halton.ca/ getmedia/0767fc9b-eeca-4400-adeb-606acb47f280/LPS-Rural Agricultural Strategy.pdf.aspx?ext=.pdf
- 51 Stuckey, J. (2013, July 17). Canadian farmers prove size doesn't matter. The Globe and Mail. Retrieved from https:// www.theglobeandmail.com/report-on-business/economy/economy-lab/canadas-farmers-prove-size-doesnt-matter/ article13262631/
- ⁵² United States Department of Agriculture. (2016). Urban agriculture tool kit. USDA. Retrieved from https://www.usda. gov/sites/default/files/documents/urban-agriculture-toolkit.pdf
- ⁵³ PowerHouse Hydroponics. (2018, Dec. 30). 5 benefits of urban farming. PowerHouse Hydroponics. Retrieved from https://www.powerhousehydroponics.com/5-benefits-of-urban-farming/
- ⁵⁴ Haney, S. (2020, Jun. 25). Ontario company makes big move into vertical farming. RealAgriculture. Retrieved from https://www.realagriculture.com/2020/06/ontario-company-makes-big-move-in-to-vertical-farming/
- ⁵⁵ JRG Consulting Group (2020). Plant the seeds: Opportunities to grow Southern Ontario's fruit & vegetable sector. Greenbelt Foundation. Retrieved from https://d3n8a8pro7vhmx.cloudfront.net/greenbelt/pages/12307/attachments/ original/1591628425/GB GrowthinFruitandVeg REPORT e-ver.pdf?1591628425
- ⁵⁶Southey, F. (2019, May 15). 'Are vertical farms even remotely efficient?' Putting a figure on plant factories. FoodNavigator. Retrieved from https://www.foodnavigator.com/Article/2019/05/15/Are-vertical-farms-even-remotelyefficient-Putting-a-figure-on-plant-factories
- ⁵⁷ Southey, F. (2019, May 15). 'Are vertical farms even remotely efficient?' Putting a figure on plant factories. FoodNavigator. Retrieved from https://www.foodnavigator.com/Article/2019/05/15/Are-vertical-farms-even-remotelyefficient-Putting-a-figure-on-plant-factories
- 58 Agritecture. (2020). Agritecture xchange: Toronto 2020. Agritecture. Retrieved from https://www.agritecture.com/ xchange?mc_cid=720228e8ba&mc_eid=a0e0a9ab12
- ⁵⁹ JRG Consulting Group (2020). Plant the seeds: Opportunities to grow Southern Ontario's fruit & vegetable sector. Greenbelt Foundation. Retrieved from https://d3n8a8pro7vhmx.cloudfront.net/greenbelt/pages/12307/attachments/ original/1591628425/GB GrowthinFruitandVeg REPORT e-ver.pdf?1591628425
- ⁶⁰ JRG Consulting Group (2020). Plant the seeds: Opportunities to grow Southern Ontario's fruit & vegetable sector. Greenbelt Foundation. Retrieved from https://d3n8a8pro7vhmx.cloudfront.net/greenbelt/pages/12307/attachments/ original/1591628425/GB GrowthinFruitandVeg REPORT e-ver.pdf?1591628425
- ⁶¹ Durham Region. (2019). Growing resilience: Durham Region agriculture sector climate adaptation strategy. Retrieved from https://www.durham.ca/en/living-here/resources/Documents/EnvironmentalStability/Durham-Region-Agriculture-Sector-Climate-Adaptation-Strategy.pdf
- ⁶² Qian, B., Gameda, S., Zhang, X., & De Jong, R. (2012). Changing growing season observed in Canada. Climatic Change, 112, 339-353.
- ⁶³ Government of Ontario. (2019). Why we need to address climate change. Government of Ontario. Retrieved from https://www.ontario.ca/page/why-we-need-address-climate-change
- ⁶⁴ Organic Agriculture Centre of Canada. (2009). Heat stress in ruminants. Dalhousie University. Retrieved from https:// cdn.dal.ca/content/dam/dalhousie/pdf/faculty/agriculture/oacc/en/livestock/Welfare/Heat_stress_ruminants.pdf
- ⁶⁵ OECD. (2019). Potential for mitigation policies in agriculture: Summary insights. In Enhancing Climate Change Mitigation through Agriculture, OECD Publishing, Paris. DOI: https://doi.org/10.1787/16af156c-en
- 66 Vineland Research and Innovation Centre. (2020). Plant variety development. Vineland Research and Innovation Centre. Retrieved from https://www.vinelandresearch.com/research-program/plant-varieties/
- ⁶⁷ Hannah, L., Roehrdanz, P.R., Bahadur, K., Fraser, E.D.G., Donatti, C.I., et al. (2020). The environmental consequences of climate-driven agricultural frontiers. PLOS ONE 15(2): e0228305. https://doi.org/10.1371/journal.pone.0228305
- ⁶⁸ McCormick, M. (2016, Oct. 16). How can food and agriculture adapt to climate change? Arrell Food Institute. Retrieved from https://arrellfoodinstitute.ca/food-climate/
- 69 Planscape Inc. (2012). Food & farming: An action plan 2021. Golden Horseshoe Food and Farming Alliance. Retrieved from http://www.foodandfarming.ca/custom/uploads/2020/05/GHFFA-Action Plan.pdf

- ⁷⁰ Friends of the Greenbelt Foundation (2018) Greenbelt Farmers: Sustaining Soil Health. Greenbelt Foundation Occasional Papers. Retrieved from https://www.greenbelt.ca/greenbelt_farmers
- ⁷¹ The Ontario Ministry of Agriculture, Food, and Rural Affairs (n.d.) Introduction to sustainable agriculture. Retrieved from http://www.omafra.gov.on.ca/english/busdev/facts/15-023.htm#EnvStew
- ⁷² Government of Canada. 2012. "Determining Food Security Status." Webpage. Available at: https://www.canada.ca/ en/health-canada/services/food-nutrition/food-nutrition-surveillance/health-nutritionsurveys/canadian-communityhealth-survey-cchs/household-foodinsecurity-canada-overview/determining-food-security-status-foodnutritionsurveillance-health-canada.html
- ⁷³ Derived from Statistics Canada. (2016). Canadian community health survey, 2014: Annual component. Statistics Canada: Ottawa, ON. Health Statistics Division, Data Liberation Initiative [producer and distributor].
- 74 Toronto Public Health. (2019). Food insecurity in Toronto 2019. Retrieved from https://www.toronto.ca/legdocs/ mmis/2019/hl/bgrd/backgroundfile-138987.pdf Feb. 5, 2020.