

# WINNIPEG FOOD SYSTEM SNAPSHOT

## 2022



# LAND ACKNOWLEDGMENT

## Treaty 1 Territory

The Winnipeg Food Council conducts its work in Treaty No. 1 Territory and the National Homeland of the Red River Métis. The Red River Métis are Canada's Negotiating Partner in Confederation and the Founders of the Province of Manitoba. Treaty No. 1 Territory is the traditional lands of the Anishinabe (Ojibway), Ininew (Cree), Oji-Cree, Dene and Dakota.

We respect the Treaties that were made on these territories and acknowledge the harms and mistakes of the past and present. We acknowledge that our water is sourced from Shoal Lake 40 First Nation. In the spirit of reconciliation, we value the ways these communities nurtured the land and honour the legacy and wisdom of the ancestors who made this place home.



# REPORT AUTHORS & CONTRIBUTORS

## Steering Committee

Dr. Joyce Slater,  
*University of Manitoba*  
Martina Gornik-Marion, *Winnipeg Regional Health Authority*  
Eliana Hotz, *Research and Policy subcommittee member of the Winnipeg Food Council*  
Jeanette Sivilay, *Coordinator of the Winnipeg Food Council*

## Research Team

Fatima Saqib  
Florian Kozlik  
Hannah Margolese  
Manvir Bhamra  
Melanie Hamilton  
Poznma Maan

## Research and Policy committee of the Winnipeg Food Council

Asha Nelson  
Cynthia Neuderoffer  
Dustin Hoft  
Eliana Hotz  
James Battershill  
Linda Zhou  
Manas Banarjee  
Martina Gornik-Marion  
Michaela Calderwood  
Scott Hyndman

# WINNIPEG FOOD COUNCIL

The Winnipeg Food Council is a citizen advisory committee established by Winnipeg City Council consisting of volunteer experts from across the food system. The Food Council is mandated with advising Mayor and Council on food systems related issues and working with community organizations to enhance Winnipeg's food system.

The Food Council is also mandated with supporting the development of an Agriculture and Food Strategy for the City of Winnipeg. This Food System Snapshot lays the groundwork to develop such a strategy to assess and guide decision-making that impacts the food system at the municipal level.

## SUMMARY OF TERMS

**Sustainable food system:** a sustainable food system is one that delivers food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised.<sup>1</sup>

**Food desert:** areas where low income residents live at a prohibitive distance from retail food establishments with sufficient variety at affordable cost.<sup>2</sup>

**Food mirage:** neighbourhoods that have full-service grocery stores, yet remain inaccessible to low-income residents because of lack of purchasing power.<sup>3</sup>

**Marginally food-insecure:** worry about running out of food and/or limit food selection because of lack of money for food.<sup>4</sup>

**Moderately food-insecure:** compromise in quality and/or quantity of food due to lack of money for food.<sup>5</sup>

**Severely food-insecure:** miss meals, reduce food intake and at the most extreme go day(s) without food.<sup>6</sup>

**Food security:** having sufficient resources to obtain adequate food.<sup>7</sup>

**Nutrition security:** having adequate nutrition status in terms of micro- and macro-nutrients.<sup>8</sup>

**Food hub:** centrally located facilities with a business management structure facilitating the aggregation, storage, processing, distribution and/or marketing of locally/regionally produced food products. A food hub may be set up as a non-profit organization, a for-profit business, or a cooperative.<sup>9</sup>

# CONTENTS

Executive Summary .....	5
Introduction .....	9
Components of the Snapshot .....	10
Category 1: Governance .....	11
Category 2: Sustainable Diets & Nutrition .....	13
Category 3: Social & Economic Equity .....	15
Category 4: Food Production .....	17
Category 5: Food Supply & Distribution .....	19
Category 6: Food Waste .....	21
Recommended Actions .....	23
Conclusion .....	25
Works Cited .....	26





## EXECUTIVE SUMMARY

Food is an integral part of our everyday lives, bringing communities together, providing nutrition for health and wellness, greening our cities and driving our economy. The food system has significant social, environmental and economic impacts that often go overlooked, however this is changing. This year world leaders met at COP27 and put food systems change on the climate agenda. Food systems account for one third of global greenhouse gas emissions.<sup>10</sup> In Manitoba, agriculture is a key part of our economy, and contributes 31% of provincial emissions.<sup>11</sup>

### A measure of food insecurity:

- 50,400\* Winnipeggers accessed food bank services each month at the height of the pandemic
- 25% were first time users
- 46% were children

\*estimate based on Provincial usage

At the same time, food inflation and poverty make it difficult for many to feed themselves. Food insecurity increased during the COVID-19 pandemic; food bank visits in Manitoba are up over 40%<sup>12</sup> as year over year food inflation in Canada reached 11.4% in 2022<sup>13</sup> the fastest jump since 1981.<sup>14</sup> At the height of the pandemic 50,400 food in-secure Winnipeggers accessed food bank services each month.<sup>15</sup>

Cities across the world are increasingly realizing the impact they can have in creating a more ecologically, economically and socially sustainable food system. Winnipeg recognizes that sustainable food systems are part of a sustainable future.

This report follows the Milan Urban Food Policy Pact monitoring framework, using locally adapted key performance indicators to provide a snapshot of Winnipeg's food system in six categories.

## 1. Governance

The City of Winnipeg has taken positive steps in food systems governance by establishing a Food Council. Development of a food strategy will provide strategic direction for the Food Council and public service to guide decision-making and integrate policies across departments.

## 2. Sustainable Diets & Nutrition

The nutrition status of many Winnipeggers is poor. Over 8% have diagnosed diabetes, a significant diet related disease; 31% of adults are overweight and 18% are obese. Nine percent of all residents, and 25% in the inner city, live in food deserts, making it difficult for them to access healthy food. Most youth are not consuming a healthy diet. The City can set standards for the quality of foods available in public City facilities. Setting standards in publicly run environments can help normalize healthier, more diversified food choices and leverage public funding to support the development of supply chains for these foods.

## 3. Social & Economic Equity

While the City has many food assets such as community gardens and kitchens, over 78% of public school students do not have access to school meal programs. Little data is available to properly assess the rate of household food insecurity, or quality of food sector jobs, in the city. The Winnipeg Food Council can better assess these indicators through working with partner organizations to gather local data.

## 4. Food Production

Over 10 indoor and outdoor urban farms are located in Winnipeg. Fifty food processors and 30 food distributors and warehouses are present in the Winnipeg Metro Region that could potentially handle local ingredients to provide supportive infrastructure for urban food production and processing. Food from far away can be vulnerable to sustainability issues and supply chain disruptions. The City supports urban agriculture through improved zoning by-laws and policy, however more can be done to identify and protect areas suitable for urban food production.

## 5. Food Supply & Distribution

One of the critical factors in enabling shorter supply chains and fostering local food systems is access to supportive markets. In Manitoba, the City of Winnipeg is the primary market area for local foods. Little data is available for this category; however the City can stimulate the market and strengthen opportunities through public procurement mechanisms, and incentives for food hubs that aggregate and distribute local foods.

## 6. Food Waste

Household food waste comprises approximately 44% of Winnipeg's waste stream. The City has begun to address food waste diversion through its two-year Residential Food Waste Collection pilot project. Instituting a permanent, city-wide household food waste collection program, as exists in many other cities, is essential for a more sustainable food system.

# RECOMMENDED ACTIONS

Based on the findings from this snapshot, the following actions are recommended to be undertaken by the City of Winnipeg, the Winnipeg Food Council, or partner organizations as indicated, to enhance and support a sustainable food system for Winnipeg.

## Immediate (<1 year)

Fund the development and implementation of an Agriculture and Food Strategy for the City of Winnipeg in collaboration with the Winnipeg Food Council, with input from the local food movement, academia, businesses, community agencies and stakeholder groups.

*Category: Governance*

**Lead: City of Winnipeg**

Adopt a city-wide residential food waste collection program.

*Category: Food Waste*

**Lead: City of Winnipeg**

Support organizations advocating for universal school food programs that promote sustainable diets.

*Category: Social & Economic Equity*

**Lead: Winnipeg Food Council**

Advocate for the Provincial Government to release the 2017 data on Nutritious Food Basket Costing, and restart the Nutritious Food Basket costing project with data divided by region and family type.

*Category: Sustainable Diets & Nutrition*

**Lead: Partner organizations**

## Medium-term (3 years)

Shorten food supply chains and spur economic development for regional food producers through use of municipal levers to strengthen market opportunities in the urban centre, such as local procurement policies and incentives for aggregation and distribution centres.

*Category: Food Supply & Distribution*

**Lead: City of Winnipeg**

Work with the Winnipeg Regional Health Authority to analyze national household food security data at the Winnipeg Health Region level, including Indigenous food security data and other sub-populations disproportionately affected.

*Category: Social & Economic Equity*

**Lead: Winnipeg Food Council**

Work with the Manitoba Collaborative Data Portal (maintained by the Social Planning Council of Winnipeg) to maintain and update the Winnipeg Food Atlas as a centralized database of information for the City of Winnipeg's food system that includes local food policy and programs, latest census data, free/low cost food meal locations, and community food and educational programs.

*Category: Governance*

**Lead: Winnipeg Food Council**

Maintain an inventory of properties suitable for urban food production.

*Category: Food Production*

**Lead: City of Winnipeg**

## Long-term (5 years)

Assess food environments of public City facilities to determine supportive policies and programs needed to increase availability and access of nutritious and diversified foods.

*Category: Sustainable Diets & Nutrition*

**Lead:** Winnipeg Food Council

Collect Winnipeg specific payroll data and disseminate data based on locally relevant industry categories to support advocacy for living wages across sectors of the food system.

*Category: Social & Economic Equity*

**Lead:** Partner organizations

Establish monitoring and data collection on sustainability benchmarks in Winnipeg's food supply chain.

*Category: Food Supply & Distribution*

**Lead:** Partner organizations

Facilitate a supportive business environment for new and existing indoor and outdoor urban agriculture operations.

*Category: Food Production*

**Lead:** City of Winnipeg



# INTRODUCTION

Food is a common part of our everyday lives, bringing communities together, providing nutrition for health and wellness, greening our cities, and driving our economy. The food system has significant social, environmental, and economic impacts that often go overlooked. Climate instability, worsening socio-economic inequities, and supply chain disruptions exacerbated by the COVID-19 pandemic have exposed numerous vulnerabilities to complex global and local food systems. In response to these growing concerns, the Winnipeg Food Council has undertaken the initial steps of documenting, analyzing, and driving municipal food system action to increase the resilience and sustainability of Winnipeg's food system.

A food system consists of the entire network of actors and their respective roles and activities along the food supply chain involved in the production, processing, distribution, preparation, consumption, and disposal of food.<sup>16</sup> Each jurisdiction has its own policies and procedures that can either support or hinder the adoption of healthier, equitable, economically viable and climate friendly food systems. Driving change in this space is a challenge, and requires an in-depth assessment of strengths, gaps, and opportunities at multiple levels.

Though not a traditional area of jurisdiction for municipalities, cities across Canada are increasingly realizing and activating the levers available to create a more sustainable food system. A sustainable food system is one that delivers food security and nutrition security for all in such a way that the economic, social and environmental bases to generate food security and healthy eating for future generations are not compromised.

This report uses evidence-based indicators to create a high-level snapshot for each food system sector in Winnipeg. It also provides strategic policy recommendations to guide municipal decision makers in acting on food systems issues.

Food systems do not exist in isolation of other important City issues. Tracking City-specific food system data can help link and support progress on climate change mitigation and adaptation, poverty and homelessness, economic development and community building for increased citizen and environmental wellbeing.

This snapshot uses the Milan Urban Food Policy Pact (MUFPP) monitoring framework<sup>17</sup> (henceforth referred to as the “monitoring framework”) to assess progress on achieving a more sustainable food system at the municipal level. Its foundations are in alignment with the 2030 United Nations Sustainable Development Goals (SDGs), Local Governments for Sustainability (ICLEI), and the C40 Cities Climate Leadership Group.

## Six categories of the MUFPP monitoring framework:

1. Governance
2. Sustainable Diets & Nutrition
3. Social & Economic Equity
4. Food Production
5. Food Supply & Distribution
6. Food Waste



The monitoring framework is comprised of six categories, with each category containing a list of recommended actions and indicators measuring the current state of a food system. These form the basis of the evaluation of this Winnipeg-based snapshot. Indicators were selected for their relevancy to Winnipeg's food system, and given preference if they were in alignment with other City of Winnipeg policy priorities, such as [OurWinnipeg2045](#).

The key findings from this snapshot show the need for a citywide food strategy that guides decision-making in multiple areas by using a systems approach. These findings also illustrate the mechanisms available for making Winnipeg's food system more sustainable, nutritious, and resilient.

## COMPONENTS OF THE SNAPSHOT

**Categories:** There are six categories within the monitoring framework.

**Indicators:** Indicators provide a baseline from which to measure on-going progress or change. They provide information about the way a process is functioning and provide a basis for further improvements and can help measure the extent to which "desired changes" are happening.

**Rationale:** The rationale section provides context to explain why the indicator is important in assessing the municipal food system.

**Findings:** Displays high level summary of results.



## CATEGORY 1: GOVERNANCE

**Indicator 1:** Presence of an active municipal interdepartmental government body for advisory and decision making on food policies and programs (e.g. interdepartmental food working group, food policy office, food team)

*Rationale:* An active municipal interdepartmental body will facilitate collaboration across city departments, enhance policy integration and efficiency gains by breaking down institutional silos.

*Findings:* Currently, there is no such interdepartmental body at the City of Winnipeg. However, the Winnipeg Food Council put forward a motion which was passed at Executive Policy Committee in 2020 recommending the creation of an inter-departmental food systems working group.<sup>18</sup>

**Indicator 2:** Presence of an active multi-stakeholder food policy and planning structure (e.g. food policy councils, food partnerships, food coalitions)

*Rationale:* Presence of a multi-stakeholder food policy structure can lead to the development of more inclusive and successful programs/policies and enhance stakeholder participation.

*Findings:* Winnipeg has a multi-stakeholder food policy structure. The Winnipeg Food Council was established by City Council and began meeting in 2018. The membership structure is designed to include stakeholders from across the food system, including members from health, food production, food business, academia, community groups, citizen members, Winnipeg City Council, and the Province of Manitoba (non-voting).<sup>19</sup> The Food Council is supported by a part time Coordinator, and has an annual operational budget of \$16,880.<sup>20</sup>

**Indicator 3:** Presence of a municipal urban food policy or strategy and/or action plans

*Rationale:* Local governments are acknowledging and (re)claiming jurisdictional responsibility for food systems activities that impact the health and well-being of their residents through comprehensive approaches that seek to assess and plan the urban food system. A plan will ensure allocation of appropriate resources within the City administration.

*Findings:* No municipal food strategy currently exists for Winnipeg. The Food Council has worked to initiate the development of an Agriculture and Food Strategy through reports such as this Food Systems Snapshot. Development of an Agriculture and Food Strategy is further supported by actions in the [Winnipeg Climate Action Plan](#).<sup>21</sup> In 2022 the Food Council set a budget of \$8,000 towards initiating the development of City of Winnipeg Agriculture and Food Strategy.<sup>22</sup>



**Indicator 4: Presence of an inventory of local food initiatives and practices to guide development and expansion of municipal urban food policy and programs**

*Rationale:* Concrete examples of food policy and programmatic best practices can be used as a source of inspiration for locally adapted urban food programs, policy and practice.

*Findings:* Several local inventories of food initiatives exist, with different and often overlapping information. It is unclear to what extent these initiatives are being used by relevant stake-holders.<sup>23 24 25 26</sup>

**Indicator 5: Presence of a mechanism for assembling and analyzing urban food system data to monitor, evaluate and inform municipal policy making on urban food policies**

*Rationale:* Any food policy development process should be based on a thorough assessment of the current urban food system in the city and ongoing trends and needs.

*Findings:* No monitoring or evaluative mechanism currently exists. The Winnipeg Food Council is in the first phase of undertaking a Food Systems Snapshot aiming to assess and create a overview of the current state of Winnipeg's food system, including measurable key performance indicators.<sup>27</sup>

**Indicator 6: Existence of a food supply emergency/food resilience management plan for the municipality (in response to disasters; infection diseases such as COVID; vulnerabilities in food production, transport, access; socio economic shocks, etc.) based on vulnerability assessment**

*Rationale:* Cities and their urban food systems are increasingly seeing more acute shocks and chronic stresses caused by climate change and other emergencies. Developing a disaster risk reduction strategy can enhance the resilience of urban food systems.

*Findings:* Currently, there is no food supply emergency or resilience management plan at the City level. In 2020 the City established a Community Emergency Advisory Committee to advise on the development of emergency preparedness programs and emergency plans. This committee is responsible for advising the City on developing an Emergency Preparedness Program and Emergency Plan, however no Plan has yet been released.<sup>28</sup>



## CATEGORY 2: SUSTAINABLE DIETS & NUTRITION

### Indicator 8: Number of households living in food deserts

*Rationale:* Geospatial distribution of food retail establishments and socioeconomic characteristics of neighbourhoods have been connected with food purchasing habits, weight status, diet-related health conditions, and dietary behaviour and quality. Geographic access can be especially limiting to low-income residents who may not have the financial means to travel.

*Findings:* 9-15% of residents in the Winnipeg Health Region live in food deserts, with 9% being citizens that live greater than 500m away from a local or national chain grocery store, and 15% of residents being greater than 500m from a national chain grocery store.<sup>29</sup>

Inner city residents live in the most unsupportive food environments, with 25% of the area being a severe food desert. If food mirages are also considered, nearly 85,000 inner city residents live in severe food mirage or desert environments. This data considers social deprivation factors (such as low income) in determining access to food for residents of neighbourhoods.<sup>30</sup>

### Indicator 9: Costs of a nutritious food basket at the city level

*Rationale:* The nutritious food basket provides the average monthly cost of an adequate and balanced diet for residents of an area or region. When related to individual or family income, and other costs of living, the food basket can inform food affordability and accessibility for residents.

*Findings:* The most recent report (data collected in 2011) found that the cost of eating healthy for a family of four in Winnipeg was between \$778.90 to \$860.80 per month.<sup>31</sup> Another round of data collection took place in 2017, however the findings have yet to be published by the provincial government.<sup>32</sup> As food prices continue to rise and wages don't keep pace, data must be collected regularly to reflect the current food environment that consumers are purchasing from.

### Indicator 11: Number of adults with type two diabetes

*Rationale:* The majority of people with diabetes are affected by type 2 diabetes, which is a significant diet-related disease. Diabetes and its complications bring about substantial economic loss to people with diabetes and their families, and to health systems and national economies through direct medical costs and loss of work and wages.

*Findings:* Over 8% of the population in Winnipeg lives with diagnosed diabetes (the majority of which is type 2).<sup>33</sup> By 2023, over 25% of Winnipeg residents will be impacted by diabetes, either by being diagnosed, or with prediabetes or undiagnosed diabetes conditions. In 2016 alone, the cost of diagnosed diabetes for the city was \$500 million dollars.<sup>34</sup> Diabetes prevalence is much higher in neighbourhoods with food deserts or mirages, and in neighbourhoods of lower income.<sup>35</sup>

### **Indicator 13: Prevalence of overweight or obesity among adults, youth, and children**

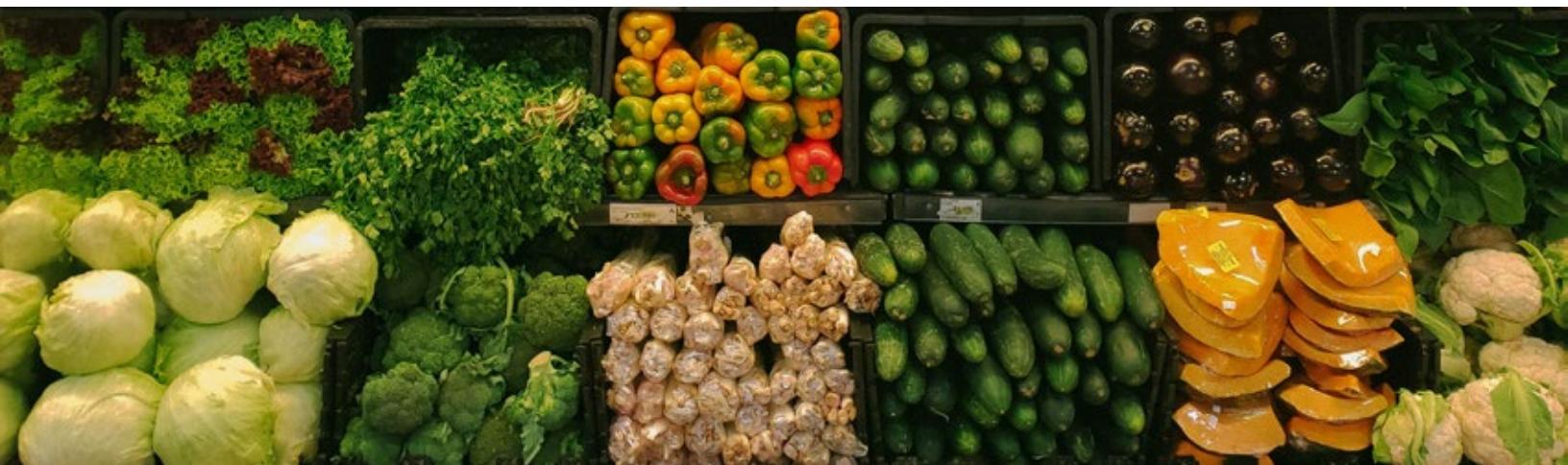
*Rationale:* Overweight and obesity amongst adults, youth and children in the population is an important indicator as it is associated with poor health outcomes such as diabetes, heart disease, some cancers, mental health issues, and may reduce quality of life. Diet quality can be a contributing factor to developing obesity.

*Findings:* In 2019, 31% of adults in the Winnipeg Health Region were overweight, and 18% were obese.<sup>36</sup> No Winnipeg-specific data was available for youth and children, however it should be noted that prevalence of Manitoba youth ages 12-19 reporting as overweight or obese is on the rise. In 2017 (as more recent data was unavailable), 26% of Manitoba youth ages 12-19 were overweight or obese.<sup>37</sup> Similar data for ages 5 years and under was not available. It is worth noting that most youth in Manitoba are not consuming a healthy diet.<sup>38</sup>

### **Indicator 16: Presence of programs/policies that promote the availability of nutritious and diversified foods in public facilities**

*Rationale:* Local governments have the opportunity to set standards for the quality of foods available in public facilities such as government offices, community centres and events. Setting standards in publicly run environments can help normalize healthier, more diversified food options and leverage public funding to support the development of supply chains for these foods.

*Findings:* There are no municipal programs or policies promoting nutritious foods in public City facilities. It is worth noting that enabling policies exist, such as *OurWinnipeg2045* goal 4.5 to pursue access to healthy food as a fundamental component of community health, poverty reduction, and building community cohesion.<sup>39</sup> The Winnipeg Regional Health Authority has implemented a Healthy Eating Environments policy in all WRHA sites and facilities.<sup>40</sup> Before COVID-19 shuttered many public facilities, the Winnipeg Food Council was set to undertake a pilot environmental scan of food offerings at City-owned recreation facilities with the Winnipeg Health Region.<sup>41</sup> This type of report would be instrumental in determining gaps where policy around food and nutrition promotion can be developed to target public facilities.





## CATEGORY 3: SOCIAL & ECONOMIC EQUITY

### Indicator 18: Percentage of food insecure households

*Rationale:* Access to clean, nutritious, affordable, and socially acceptable food is a basic human right. Lack thereof increases risk for poor mental and physical health.

*Findings:* There is no Winnipeg specific data, however based on national data collected using the Household Food Security Survey Module, 4.7% of Manitobans are severely food insecure, 8.3% are moderately food insecure, and 4.9% are marginally food insecure, for a total of 17.8% of Manitoba households (220,000 people) experiencing food insecurity in 2021. Further, it should be noted that 20.9% of Manitoba children under 18 live in food insecure households (60,000 children).<sup>42</sup> Also, almost one third of off-reserve Indigenous peoples are food insecure<sup>43</sup> and food insecurity overall has risen sharply during the pandemic.<sup>44</sup> The City's [\*Poverty Reduction Strategy\*](#) includes 10 year objectives to increase food security targeting areas of higher poverty, particularly the shelterless population.<sup>45</sup>

### Indicator 20: Percentage of children/youth benefiting from school food programs

*Rationale:* Daily school meals improve educational achievement, health, attendance, and food knowledge.

*Findings:* 21.9%. In 2021-22, 141 Winnipeg schools received funding and guidance from the Child Nutrition Council of Manitoba (CNCM), serving 21,263 students, comprising 21.9% of Winnipeg public school children. The data, however, shows that 78.1% of Winnipeg students do not have access to a school food program funded by the CNCM. The CNCM does not currently accept new applications due to lack of funds.<sup>46</sup> Winnipeg schools may have separate food programs, but this is not well documented.

### Indicator 21: Number of formal jobs related to the urban food system that pay at least the national minimum or living wage

*Rationale:* The urban food system is a key income source for low-income persons. Jobs can be labour intensive, low paying, with substandard working conditions, but are critical in supporting sectors such as service and manufacturing.

*Findings:* In 2020, Winnipeg employment data shows that 2800, 25,600, and 60,100 people worked in agriculture, accommodation/food services, and wholesale/retail trade, respectively.<sup>47</sup> The average weekly wage for Manitobans working in agriculture, accommodation/food services, and wholesale/retail trade was \$794.42, \$414.31, and \$723.92, respectively.<sup>48</sup> The minimum wage and living wage for Winnipeg in 2020 were \$11.95 (\$418.25/week) and \$16.15 (\$565.25/week) per hour, respectively, showing a significant gap.<sup>49</sup> These data indicate that the average accommodation/food services employee in Manitoba makes less than the minimum wage.



### **Indicator 22: Number of community-based food assets in the city**

*Rationale:* Categorizing existing community food assets will guide future urban planning and help fulfill the good health and well-being outcomes in the OurWinnipeg2045 development plan.

#### *Findings:*

- 83 food banks<sup>\*50</sup>
- 45 community gardens<sup>51</sup>
- 13 farmer's markets<sup>52</sup>
- 65 newcomer food stores<sup>53</sup>
- 33 full service/grocery stores<sup>54</sup>
- 70 national chain grocery stores<sup>55</sup>
- 33 free/low-cost food box/meal locations<sup>56</sup>
- 1 local food hub<sup>57</sup>

It is worth noting that several City owned community centres host community food assets such as farmers markets, community gardens, food banks, local food pick-up hubs, and community kitchens.

\*Food banks are not always considered a food asset as they indicate the presence of poverty and food insecurity.



## CATEGORY 4: FOOD PRODUCTION

### **Indicator 25:** Number of city residents within the municipal boundary with access to an (urban) agriculture garden

*Rationale:* Urban and peri-urban agriculture offers opportunities to contribute to synergies across food security and nutrition, ecosystem services and human wellbeing. Urban agriculture gardens offer numerous environmental, economic, and social benefits such as the contribution to a sense of community and improving the well-being of residents.

*Findings:* Approximately 9.2%, or 70,315 residents has access to an urban agriculture garden, as defined by living within of 500 metres of an urban community garden.<sup>58</sup> Further data must analyze the number of plots available, demand and occupancy rates for each site. This data does not include residents with private household gardens.

### **Indicator 26:** Presence of municipal policies and regulations that allow and promote agriculture production and processing in the municipal area

*Rationale:* Dependence on distant sources of food and other resources can create sustainability challenges and vulnerabilities to supply disruptions. As such, cities must strengthen food system planning. Public policy can encourage entrepreneurs through financial and public policy support, using a variety of instruments that focus on enabling affordable access to land, infrastructure, training, etc.

*Findings:* The Municipal Food Policy Scan lists 11 policies or actions that allow and promote agricultural production and processing in the municipal area.<sup>59</sup> The nature of these policies are small or very high level. Further efforts should be taken to identify, or create where they don't exist, policies and regulations to support local businesses producing or processing food in the municipal area.

### **Indicator 27:** Surface area of (potential) agricultural spaces within the municipal boundary

*Rationale:* Urban expansion increases demand for natural resources which provide vital food and ecosystem services to cities. Large scale conversions of agricultural land to non-agricultural uses have caused problems with drainage systems and flood retention, temperature increases and environmental pollution.

*Findings:* There is insufficient data to analyze this indicator. It should be noted previous versions of OurWinnipeg2045 have included actions to compile an inventory suitable for urban food production.<sup>60</sup> Further, the City of Winnipeg does include Agricultural lands in its urban structure inventory.

[Complete Communities 2.0](#) includes goals to protect productive farmland, and support local food production for lands zoned Rural and Agricultural, though these lands are planned at a high level in preparation for eventual development as future urban neighbourhoods.<sup>61</sup>



### **Indicator 31: Number of municipal food processing and distribution infrastructures available to food producers in the municipal area**

*Rationale:* One of the critical factors in enabling a food business to supply markets in the city is the ability to process and distribute in or around the area. This also facilitates shorter supply chains, and links urban and rural environments. Efficient use of capital inputs (such as sharing infrastructure), and product aggregation from different producers (food hubs) will make the system more successful.

*Findings:* There are 54 food processors within the Winnipeg Metropolitan Region that can process local foods and ingredients.<sup>62 63</sup> These processors are listed under five categories: Meat and Fish (21); Dairy and Dairy Products (7); Grains, Legumes, Pulses, and Oilseeds (18); Produce (1); Honey and Syrups (7). The data does not indicate which food warehousing and distribution companies cater specifically to smallholder producers; as such it was considered possible that all could at some point in the supply chain, ship local goods and contribute overall to a more robust local food system.

There were 30 recorded food distribution and warehousing organizations in the Winnipeg Metropolitan region. 21 are private warehousing and distribution companies. 9 are charitable or non-profit organizations that have the capacity to collect donated and surplus produce from local producers for vulnerable community members.<sup>64</sup>

### **Indicator 32: Proportion of local/regional food producers that sell their products to public markets in the city**

*Rationale:* Short food supply chains are promoted to harness more integrated urban-rural relations, strengthen social relations between consumer and producers, and promote the inclusiveness of smallholder farmers across the supply chain.

*Findings:* A significant data gap exists. There are 47 of 78, or 60%, of food-selling producer members of Direct Farm Manitoba (a cooperative representing local/regional producers and farmers markets), sell products in Winnipeg.<sup>65</sup> There are also over 10 indoor and outdoor urban farms in Winnipeg selling products to the public. Further research should analyze independent and regional grocers in Winnipeg, vendors at seasonal markets, and other local food directories. It is worth noting that many farmers markets in Winnipeg operate at City-owned facilities,<sup>66</sup> and that during the pandemic the City made public parking lots and other public areas available for local food pick-up hubs to facilitate short supply chains and help regional producers meet increasing urban demand for local foods while maintaining essential social distancing measures.<sup>67</sup>



## CATEGORY 5: FOOD SUPPLY & DISTRIBUTION

**Indicator 34:** Existence of municipal policies/programs that address the reduction of GHG emissions in different parts of the food supply chain

*Rationale:* The purpose of this area of work is to increase understanding of how to achieve targeted improvements in the food chain. Reducing the use of fossil fuels is essential to meet global commitments to reduce GHG emissions and mitigate human-caused climate change.

*Findings:* No targeted municipal policies exist. Winnipeg is committed to actively reducing greenhouse gas emissions at both the corporate and community levels. The *Winnipeg Climate Action Plan*<sup>68</sup> and *Community Energy Investment Roadmap*<sup>69</sup> provide a City and community plan to reduce emissions. While actions specific to the food supply chain are not outlined, other initiatives such as reducing emissions from transportation and buildings, waste diversion programs and actions regarding plant-based diets will have impacts on emissions from the food supply chain. The City's *Sustainable Procurement Action Plan* includes a goal to increase access to local sustainable food,<sup>70</sup> and may also have impact on GHG emissions. While these policies can be applied to the food supply chain, there are no targeted municipal policies in this area to state progress for this indicator.

**Indicator 35: Presence of a development plan to strengthen resilience and efficiency of local food supply chains logistics.**

*Rationale:* Winnipeg is a crucial market place for local foods in Manitoba. Planning at the city-level for food storage, processing, transport and distribution technologies and infrastructure linking peri-urban and near rural areas can strengthen resilience and efficiency of local food supply chain logistics.

*Findings:* No development plan currently exists. Our *Winnipeg2045* includes a goal to support local food security through sustainable agriculture and local food systems including scalable production, processing, storage, distribution, preparation, consumption and disposal.<sup>71</sup> The *Winnipeg Climate Action Plan* includes an action to work with the Winnipeg Food Council in developing an Agriculture and Food Strategy for the City of Winnipeg that may address this indicator.<sup>72</sup> Further, the City plans to update the Winnipeg Climate Action Plan and establish a Climate Resiliency Strategy that may address this indicator.<sup>73</sup>

**Indicator 38: Proportion of food procurement expenditure by public institutions on food from sustainable sources and shorter (local/regional) supply chains**

*Rationale:* The total annual expenditure of public sector institutions on food can be very significant, collectively providing the second largest food market nationally. As procurers of food and managers of food supply contracts for various services, local government can play a critical role in influencing positive changes to increase in local and sustainable food supply and distribution.

*Findings:* No data is available to track this indicator. Public institutions in Winnipeg do not readily provide sufficient data regarding their procurement strategies. It is worth noting that the City of Winnipeg's new *Sustainable Procurement Action Plan* may lead to data for City-related procurement.





## CATEGORY 6: FOOD WASTE

### **Indicator 41:** Total annual volume of food losses & waste (tonnes/kgs)

*Rationale:* A large share of food grown for human consumption is never eaten, ending up in landfills, leading to the production of greenhouse gases and significant economic losses. Cities are key players because they are responsible for solid waste services and have economic, social and sustainability goals that food waste solutions can support. Many cities have analyzed the types of materials that end up in the waste stream, however few have done comprehensive food waste assessments. This lack of information is a barrier to developing strategies to reduce food loss and waste.

*Findings:* based on 2019 data, the City manages approximately 121,088 tonnes of residential food waste annually. The City of Winnipeg began tracking residential organic waste as part of the Residential Food Waste Collection Pilot Project and found that household food waste comprises approximately 44% of Winnipeg's waste stream.<sup>74</sup> In 2019 the City managed 275,200 tonnes of waste, the last average year for which a tonnage was reported.<sup>75</sup> This figure captures only food waste at the single-family household level.

### **Indicator 42:** Annual number of events and campaigns aimed at decreasing food loss and waste

*Rationale:* Improved access to information on food waste can support strategies and prioritize actions to prevent food loss and waste.

*Findings:* There were five informational campaigns in 2022. The City of Winnipeg in partnership with the Winnipeg Food Council and Love Food Hate Waste Canada ran two household food waste reduction campaigns in 2022. One was a social media campaign during Food Waste Action Week in March,<sup>76</sup> the other was a community engagement campaign at farmers markets throughout summer.<sup>77</sup> Compost Winnipeg ran a food waste reduction campaign aimed at pumpkins after Halloween weekend.<sup>78</sup> Green Action Centre ran two online food waste reduction campaigns in 2022 for International Compost Awareness Week and Waste Reduction Week.<sup>79</sup>

### **Indicator 43:** Presence of policies or regulations that address food waste prevention, recovery, and redistribution

*Rationale:* A significant share of food grown for human consumption is never eaten. The Food and Agriculture Organization of the United Nations estimates that a third, by weight, of all food produced in the world was lost or wasted in 2009. The amount of food lost or wasted is responsible for an estimated 8% of global greenhouse gas emissions.

*Findings:* The City of Winnipeg conducted a two year Residential Food Waste Collection Pilot Project that concluded in September, 2022. The pilot collected food waste from homes in several areas of Winnipeg through a green cart program and turned it into compost. Following completion of the project the Public Service will now assess the pilot and provide a report to City Council. City Council will then make a decision on whether to move forward with a city-wide residential food waste collection program.<sup>80</sup>

**Indicator 44: Total annual volume of surplus food recovered and redistributed for direct human consumption**

*Rationale:* The reduction, management, and prevention of food loss and waste are markers of a sustainable municipal food system. Recovery and redistribution of safe and nutritious food for human consumption has been highlighted as an important strategy for the prevention of food waste and for contributing to urban food security.

*Findings:* No data is available to track this indicator. A number of organizations in Winnipeg redirect food formally and informally (e.g. grocery stores and restaurants redirecting food that would go landfill to charitable organizations). Data is insufficient on total annual volume of surplus food recovered and redistributed for direct human consumption in Winnipeg. Knowing this information could influence policies and regulations used to reduce food insecurity and greenhouse gas emissions.



# RECOMMENDED ACTIONS

This initial Food System Snapshot assessment for the City of Winnipeg is an important first step in capturing the overall state of Winnipeg's food system. Understanding the indicators presented here will aid in developing partnerships, planning targeted and strategic activities, as well as advocating for policies that nurture healthier, more resilient food systems.

The following recommended actions are presented in an action timeline. For each action the corresponding category from the monitoring framework is identified, along with the anticipated lead responsible for taking action.

## Immediate (<1 year)

Fund the development and implementation of an Agriculture and Food Strategy for the City of Winnipeg in collaboration with the Winnipeg Food Council, with input from the local food movement, academia, businesses, community agencies and stakeholder groups.

*Category: Governance*

**Lead: City of Winnipeg**

Adopt a city-wide residential food waste collection program.

*Category: Food Waste*

**Lead: City of Winnipeg**

Support organizations advocating for universal school food programs that promote sustainable diets.

*Category: Social & Economic Equity*

**Lead: Winnipeg Food Council**

Advocate for the Provincial Government to release the 2017 data on Nutritious Food Basket Costing, and restart the Nutritious Food Basket costing project with data divided by region and family type.

*Category: Sustainable Diets & Nutrition*

**Lead: Partner organizations**

## Medium-term (3 years)

Shorten food supply chains and spur economic development for regional food producers through use of municipal levers to strengthen market opportunities in the urban centre, such as local procurement policies and incentives for aggregation and distribution centres.

*Category: Food Supply & Distribution*

**Lead: City of Winnipeg**

Work with the Winnipeg Regional Health Authority to analyze national household food security data at the Winnipeg Health Region level, including Indigenous food security data and other sub-populations disproportionately affected.

*Category: Social & Economic Equity*

**Lead: Winnipeg Food Council**

Work with the Manitoba Collaborative Data Portal (maintained by the Social Planning Council of Winnipeg) to maintain and update the Winnipeg Food Atlas as a centralized database of information for the City of Winnipeg's food system that includes local food policy and programs, latest census data, free/low cost food meal locations, and community food and educational programs.

*Category: Governance*

**Lead: Winnipeg Food Council**

Maintain an inventory of properties suitable for urban food production.

*Category: Food Production*

**Lead: City of Winnipeg**

### Long-term (5 years)

Assess food environments of public City facilities to determine supportive policies and programs needed to increase availability and access of nutritious and diversified foods.

*Category: Sustainable Diets & Nutrition*

**Lead: Winnipeg Food Council**

Collect Winnipeg specific payroll data and disseminate data based on locally relevant industry categories to support advocacy for living wages across sectors of the food system.

*Category: Social & Economic Equity*

**Lead: Partner organizations**

Establish monitoring and data collection on sustainability benchmarks in Winnipeg's food supply chain.

*Category: Food Supply & Distribution*

**Lead: Partner organizations**

Facilitate a supportive business environment for new and existing indoor and outdoor urban agriculture operations.

*Category: Food Production*

**Lead: City of Winnipeg**



Sustainable food systems are more than increasing the nutritional value and safety of Winnipeg's food supply; they address climate change mitigation through more sustainable agricultural practices from farm to fork and support the alleviation of food and nutrition insecurity. Sustainable food systems can also improve community health and well-being and foster urban-rural linkages.

Tracking data on Winnipeg's food system can guide policy and decision-making in alignment with the monitoring framework, the Sustainable Development Goals, and OurWinnipeg2045. This snapshot marks the beginning of a targeted municipal approach to identifying key areas for growth in the sustainability and resilience of Winnipeg's food system.

# CONCLUSION

This inaugural Winnipeg food System Snapshot showcases Winnipeg's many food related assets, such as food processing capacity, commercial kitchens and urban gardens, and governance structures such as the Winnipeg Food Council. Several areas of improvement across the food system have also been identified, such as the need for a food strategy to provide direction for food systems planning and urban agriculture, better local data on household food security, policies to support local food procurement and healthy food environments, and the implementation of a permanent food waste collection program. Winnipeggers care about their City, their food, and the future of the Winnipeg food system. This snapshot is the first step toward planning for a more sustainable and equitable food system in Winnipeg.

This report provides a review of the resources, infrastructure, strengths, and gaps across six dimensions of Winnipeg's food system as defined by the monitoring framework. Secondary data was used to illustrate these conditions. A subset of indicators was selected and analyzed from each category to represent opportunities for improvements to Winnipeg's food system. The presence (or lack thereof) of each indicator justified the basis for the evaluation of this snapshot. Where data was missing, a gap statement was provided to articulate opportunities to improve data collection for pertinent indicators of food system health.

## Future Research

A significant barrier to capturing the full picture of Winnipeg's food system was the lack of available data at the city, or Winnipeg Health Region, level. For indicators across each of the six categories important data gaps were identified. Future research should include surveys on key indicators, and analysis of secondary data at the Winnipeg or Winnipeg Health Region level with academic partners.



# WORKS CITED

- 1 Food and Agriculture Organization of the United Nations. (2019). *The Milan Urban Food Policy Pact monitoring framework*. <https://www.fao.org/documents/card/en/c/ca6144en/>
- 2 Slater, J., Epp-Koop, S., Jakilazek, M., & Green, C. (2017). Food deserts in Winnipeg, Canada: A novel method for measuring a complex and contested construct. Déserts alimentaires à Winnipeg (Canada): Une nouvelle méthodologie de mesure d'un concept complexe et controversé. *Health Promotion and Chronic Disease Prevention in Canada: Research, Policy and Practice*, 37(10), 350–356. <https://doi.org/10.24095/hpcdp.37.10.05>
- 3 Wiebe, K. & Distasio, J. (2016). *Confronting the illusion: Developing a method to identify food mirages and food deserts in Winnipeg*. The IUS In-Brief Series, Institute of Urban Studies, University of Winnipeg. <https://winnspace.uwinnipeg.ca/bitstream/handle/10680/1205/2016%20Confronting%20the%20Illusion%20In-Brief.pdf?sequence=6&isAllowed=y>
- 4 Tarasuk, V., Li, T., & Fafarad St-Germain, A. (2021). *Household food insecurity in Canada 2021*. PROOF. <https://proof.utoronto.ca/wp-content/uploads/2022/08/Household-Food-Insecurity-in-Canada-2021-PROOF.pdf>
- 5 Ibid.
- 6 Ibid.
- 7 Slater, J., & Yeudall, F. (2015). Sustainable livelihoods for food and nutrition security in Canada: A conceptual framework for public health research policy, and practice. *Journal of Hunger and Environmental Nutrition*, 10(1), 1-21. <http://dx.doi.org/10.1080/19320248.2015.1004220>
- 8 Ibid.
- 9 Food and Agriculture Organization of the United Nations. (2019). *The Milan Urban Food Policy Pact monitoring framework*. <https://www.fao.org/documents/card/en/c/ca6144en/>
- 10 Global Alliance for the Future of Food. (2022). *Untapped opportunities: Climate financing for food systems transformation*. <https://futureoffood.org/wp-content/uploads/2022/10/climatefinancereport-english.pdf>
- 11 Climate Action Team. (2021). *Manitoba's road to resilience*. [https://climateactionmb.ca/wp-content/uploads/2021/02/Manitobas-Road-to-Resilience\\_2021.pdf](https://climateactionmb.ca/wp-content/uploads/2021/02/Manitobas-Road-to-Resilience_2021.pdf)
- 12 Harvest Manitoba. (2022). *Harvest Manitoba gratitude report 2021-2022*. <https://www.harvestmanitoba.ca/wp-content/uploads/2022/10/FINAL-2021-22-Report.pdf>
- 13 Statistics Canada. (2022). *Consumer price index, September 2022*. <https://www150.statcan.gc.ca/n1/daily-quotidien/221019/dq221019a-eng.htm>
- 14 Ibid.
- 15 Harvest Manitoba. (2021). *Harvest Manitoba gratitude report 2020-2021*. <https://www.harvestmanitoba.ca/wp-content/uploads/2022/06/2020-21-Gratitude-Report-Online.pdf>
- 16 Food and Agriculture Organization of the United Nations. (2018). *Sustainable food systems: Concept and framework*. <https://www.fao.org/3/ca2079en/CA2079EN.pdf>
- 17 Milan Urban Food Policy Pact Secretariat. (2015). *Milan Urban Food Policy Pact*. <https://www.milanurbanfoodpolicy pact.org/the-milan-pact/>
- 18 Executive Policy Committee. (2020). *Executive policy committee regular meeting minutes (adopted)*. City of Winnipeg. <https://clkapps.winnipeg.ca/DMIS/ViewDoc.asp?DocId=20553&SectionId=581389&InitUrl=>
- 19 City of Winnipeg. (2022). *About the Winnipeg Food Council*. <https://winnipeg.ca/clerks/boards/WpgFoodCouncil/about.stm>
- 20 Winnipeg Food Council. (2022). *Winnipeg Food Council 2022 workplan and operating budget*. <https://clkapps.winnipeg.ca/DMIS/ViewPdf.asp?SectionId=634899>
- 21 City of Winnipeg. (2018). *Winnipeg climate action plan*. <https://winnipeg.ca/sustainability/PublicEngagement/ClimateActionPlan/pdfs/WinnipegsClimateActionPlan.pdf>
- 22 City of Winnipeg. (2022). *About the Winnipeg Food Council*. <https://winnipeg.ca/clerks/boards/WpgFoodCouncil/about.stm>

- 23 Fireweed Food Co-op. (2022). *Community food resources*.  
<https://www.fireweedfoodcoop.ca/community-food-resources>
- 24 Food Matters Manitoba. (2022). *Homepage*. <https://foodmattersmanitoba.ca/>
- 25 Manitoba Collaborative Data Portal. (2022). *Food and nutrition security*. <http://www.mbcdp.ca/fns.html>
- 26 Winnipeg Food Council. (2022). *Municipal food policy scan*.  
<https://clkapps.winnipeg.ca/DMIS/ViewPdf.asp?SectionId=631491>
- 27 Winnipeg Food Council. (2022). *Winnipeg Food Council 2022 workplan and operating budget*.  
<https://clkapps.winnipeg.ca/DMIS/ViewPdf.asp?SectionId=634899>
- 28 City of Winnipeg. (2022). *Community emergency advisory committee*.  
<https://winnipeg.ca/clerks/boards/pdfs/Community-Emergency-Advisory-Committee.pdf>
- 29 Slater, J., Epp-Koop, S., Jakilazek, M., & Green, C. (2017). Food deserts in Winnipeg, Canada: A novel method for measuring a complex and contested construct. Déserts alimentaires à Winnipeg (Canada): Une nouvelle méthodologie de mesure d'un concept complexe et controversé. *Health Promotion and Chronic Disease Prevention in Canada: Research, Policy and Practice*, 37(10), 350–356. <https://doi.org/10.24095/hpcdp.37.10.05>
- 30 Wiebe, K. & Distasio, J. (2016). *Confronting the illusion: Developing a method to identify food mirages and food deserts in Winnipeg*. The IUS In-Brief Series, Institute of Urban Studies, University of Winnipeg.  
<https://winnspace.uwinnipeg.ca/bitstream/handle/10680/1205/2016%20Confronting%20the%20Illusion%20In-Brief.pdf?sequence=6&isAllowed=y>
- 31 Rand , C., Begg , L., Ross, S., Houde , C., Mazur, L., Smith, S., Nash, A., Bizarria, C., & Wherle, S. (2012). *The cost of eating according to the 'Nutritious Food Basket' in Manitoba in May 2011*. Winnipeg Regional Health Authority.  
[https://professionals.wrha.mb.ca/old/extranet/nutrition/files/Professionals\\_Reports\\_FoodBasketReport.pdf](https://professionals.wrha.mb.ca/old/extranet/nutrition/files/Professionals_Reports_FoodBasketReport.pdf)
- 32 Slater, J., & Taylor-Hughes, K. (2019). *Op-ed: Make Manitoba's food cost data publicly available*. University of Manitoba.  
<https://news.ummanitoba.ca/op-ed-make-manitobas-food-cost-data-publicly-available/>
- 33 Cui, Y., Zinnick, S., Henderson, A., & Dunne L. (2019) *Winnipeg health region community health assessment 2019*. Winnipeg Regional Health Authority. <https://wrha.mb.ca/files/cha-2019-full-report.pdf>
- 34 Manitoba Collaborative Data Portal. (2019). *Projections of diabetes, undiagnosed diabetes and pre-diabetes cases and costs, Winnipeg health region, 2016-2032*.  
[https://public.tableau.com/app/profile/manitoba.collaborative.data.portal/viz/DiabProj1\\_15771373036700/Dashboard1](https://public.tableau.com/app/profile/manitoba.collaborative.data.portal/viz/DiabProj1_15771373036700/Dashboard1)
- 35 Manitoba Collaborative Data Portal (MCDP). (2021). *Food and nutrition security: Winnipeg Food Atlas*.  
<http://www.mbcdp.ca/fns.html>
- 36 Cui, Y., Zinnick, S., Henderson, A., & Dunne L. (2019) *Winnipeg health region community health assessment 2019*. Winnipeg Regional Health Authority. <https://wrha.mb.ca/files/cha-2019-full-report.pdf>
- 37 Healthy Child Manitoba. (2017). *2017 Child and youth report – executive summary*.  
[https://www.gov.mb.ca/healthychild/publications/hcm\\_2017reportsummary.pdf](https://www.gov.mb.ca/healthychild/publications/hcm_2017reportsummary.pdf)
- 38 Slater, J., Pilli, B., Hinds, A., Katz, A., Urquia, M. L., Sanguins, J., Green, C., Cidro, J., Chateau, D., Nickel, N. (2022). *The food and nutrition security for Manitoba youth (FANS) study: Rational, methods, dietary intakes and body mass index*. BMC Nutrition, 8(116). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9584280/>
- 39 City of Winnipeg. (2022). *OurWinnipeg 2045*.  
<https://winnipeg.ca/interhom/cityhall/ourwinnipeg/Documents/Our-Winnipeg-2045.pdf>
- 40 Winnipeg Regional Health Authority (2018). *Operational guideline: Healthy eating environments*.  
<https://wrha.mb.ca/files/healthy-eating-guideline.pdf>
- 41 Winnipeg Food Council. (2019). *2020 work plan and budget summary*.  
<https://clkapps.winnipeg.ca/DMIS/ViewDoc.asp?DocId=19071&SectionId=552459&InitUrl=>
- 42 Tarasuk, V., Li, T., Fafarad St-Germain, A. (2021). *Household food insecurity in Canada 2021*. PROOF.  
<https://proof.utoronto.ca/wp-content/uploads/2022/08/Household-Food-Insecurity-in-Canada-2021-PROOF.pdf>
- 43 Ibid.
- 44 Statistics Canada. (2022). *Consumer price index, September 2022*.  
<https://www150.statcan.gc.ca/n1/daily-quotidien/221019/dq221019a-eng.htm>
- 45 City of Winnipeg. (2021). *Winnipeg poverty reduction strategy*.  
[http://clkapps.winnipeg.ca/DMIS/permalink.asp?id=A20211125\(RM\)C-16](http://clkapps.winnipeg.ca/DMIS/permalink.asp?id=A20211125(RM)C-16)
- 46 Child Nutrition Council of Manitoba. (2022). *Annual report 2021-22*.  
<https://childnutritioncouncil.com/wp-content/uploads/2022/09/CNCM-2021-22-Annual-Report-FINAL.pdf>
- 47 Economic Development Winnipeg. (2021). *Industry payroll*.  
[https://www.economicdevelopmentwinnipeg.com/uploads/document/industry\\_payroll\\_march\\_6\\_2021.t1615301889.xlsx](https://www.economicdevelopmentwinnipeg.com/uploads/document/industry_payroll_march_6_2021.t1615301889.xlsx)

- 48 Ibid.
- 49 Apata, M., Hajar, J., & Harney, N. (2022). *Manitoba living wage update 2022*. Canadian Centre for Policy Alternatives.  
<https://policyalternatives.ca/sites/default/files/uploads/publications/Manitoba%20Office/2022/08/MB%20Living%20Wage%20Update%2022.pdf>
- 50 Manitoba Collaborative Data Portal. (2021). *Winnipeg food atlas*.  
<https://mangomap.com/cgreenwpg/maps/32186/winnipeg-food-atlas#>
- 51 Winnipeg Food Council. (2021). *Community gardens report*.  
[http://clkapps.winnipeg.ca/DMIS/permalink.asp?id=A20210430\(RM\)WFC-9](http://clkapps.winnipeg.ca/DMIS/permalink.asp?id=A20210430(RM)WFC-9)
- 52 Manitoba Collaborative Data Portal. (2021). *Winnipeg food atlas*.  
<https://mangomap.com/cgreenwpg/maps/32186/winnipeg-food-atlas#>
- 53 Ibid.
- 54 Ibid.
- 55 Ibid.
- 56 Food Matters Manitoba. (2022). *Find emergency & community supported food in Winnipeg*.  
[https://foodmattersmanitoba.ca/wp-content/uploads/2022/03/Find-Emergency-Food\\_Mar2022.pdf](https://foodmattersmanitoba.ca/wp-content/uploads/2022/03/Find-Emergency-Food_Mar2022.pdf)
- 57 Fireweed Food Co-op. (2022). *Fireweed food hub*.  
<https://www.fireweedfoodcoop.ca/aboutfoodhub>
- 58 Manitoba Collaborative Data Portal. (2021). *Winnipeg food atlas*.  
<https://mangomap.com/cgreenwpg/maps/32186/winnipeg-food-atlas#>
- 59 Winnipeg Food Council. (2022). *Municipal food policy scan*. <https://clkapps.winnipeg.ca/DMIS/ViewPdf.asp?SectionId=631491>
- 60 City of Winnipeg. (2011). *Our Winnipeg 2011*.  
<https://winnipeg.ca/interhom/CityHall/OurWinnipeg/Documents/RelatedDocuments/OurWinnipeg2011.pdf>
- 61 City of Winnipeg. (2022). *Complete Communities 2.0*.  
<https://winnipeg.ca/interhom/cityhall/ourwinnipeg/Documents/Complete-Communities-Direction-Strategy-2.0.pdf>
- 62 Value Added Branch. (2019). *About the sector: Food and beverage processing*. Manitoba Agriculture.  
<https://www.gov.mb.ca/agriculture/food-and-ag-processing/about-the-sector.html>
- 63 Value Added Branch. (2019). *Food ingredient and product directory*. Manitoba Agriculture.  
<https://www.gov.mb.ca/agriculture/food-and-ag-processing/starting-a-food-business/pubs/food-product-directory-22-23.xlsx>
- 64 Value Added Branch. (2019). *Food warehousing and distribution directory*. Manitoba Agriculture.  
<https://www.gov.mb.ca/agriculture/food-and-ag-processing/starting-a-food-business/pubs/mb-fwd-directory-2019.xlsx>
- 65 Direct Farm Manitoba. (2022). *Directory*. <https://www.directfarmmanitoba.ca/map/?view=directory>
- 66 City of Winnipeg. (2022). *Sustainable food systems & security*. <https://winnipeg.ca/sustainability/FoodSecurity.stm>
- 67 Ibid.
- 68 City of Winnipeg. (2018). *Winnipeg climate action plan*.  
<https://winnipeg.ca/sustainability/PublicEngagement/ClimateActionPlan/pdfs/WinnipegsClimateActionPlan.pdf>
- 69 City of Winnipeg. (2022). *Community energy investment roadmap*.  
[https://winnipeg.ca/sustainability/documents/ceir/CEIR\\_report.pdf](https://winnipeg.ca/sustainability/documents/ceir/CEIR_report.pdf)
- 70 City of Winnipeg (2022). *Sustainable procurement action plan*.  
<https://winnipeg.ca/matmgt/pdfs/SustainableProcurement-ActionPlan.pdf>
- 71 City of Winnipeg. (2022). *OurWinnipeg 2045*.  
<https://winnipeg.ca/interhom/cityhall/ourwinnipeg/Documents/Our-Winnipeg-2045.pdf>
- 72 City of Winnipeg. (2018). *Winnipeg climate action plan*.  
<https://winnipeg.ca/sustainability/PublicEngagement/ClimateActionPlan/pdfs/WinnipegsClimateActionPlan.pdf>
- 73 City of Winnipeg. (2022). *Community energy investment roadmap to reach Net Zero emissions by 2050*.  
[http://clkapps.winnipeg.ca/DMIS/permalink.asp?id=A20220628\(RM\)WW-18](http://clkapps.winnipeg.ca/DMIS/permalink.asp?id=A20220628(RM)WW-18)
- 74 City of Winnipeg. (2022) *Financial incentives for composting*.  
<https://clkapps.winnipeg.ca/DMIS/ViewDoc.asp?DocId=21542&SectionId=630664&InitUrl=>
- 75 City of Winnipeg (2021). *2020 comprehensive integrated waste management strategy (CIWMS) annual report*.  
[http://clkapps.winnipeg.ca/DMIS/permalink.asp?id=A20210602\(RM\)WW-11](http://clkapps.winnipeg.ca/DMIS/permalink.asp?id=A20210602(RM)WW-11)
- 76 Winnipeg Food Council [@wpgfoodcouncil]. (2022, March 7). *March 7 to 13 is Food Waste Action week! By reducing your food waste, you can help the environment and [Photograph]*. Instagram. <https://www.instagram.com/p/CazrqToLaQR/>
- 77 Winnipeg Food Council (2022). *Avoidable household food waste reduction outreach campaign*.  
[http://clkapps.winnipeg.ca/DMIS/permalink.asp?id=M20220718\(RM\)WFC-13](http://clkapps.winnipeg.ca/DMIS/permalink.asp?id=M20220718(RM)WFC-13)
- 78 Green Action Centre. (2022). *Compost Winnipeg's second annual pumpkin drop*.  
<https://greenactioncentre.ca/featured/compost-winnipegs-2nd-annual-pumpkin-drop/>
- 79 Green Action Centre. (2022). *Food waste*. <https://greenactioncentre.ca/category/composting/food-waste/>
- 80 City of Winnipeg. (2022). *Residential food waste collection pilot project*.  
[https://engage.winnipeg.ca/residential-food-waste-pilot-program?tool=news\\_feed#tool\\_tab](https://engage.winnipeg.ca/residential-food-waste-pilot-program?tool=news_feed#tool_tab)