ADDRESSING FOOD INSECURITY AND FOOD WASTAGE IN TORONTO THROUGH A NEIGHBOURHOOD-BASED FOOD RESCUE INITIATIVE

MUHAMMAD KHALIS BIN SAMION – 1007680458
URB335 White Paper – November 28, 2023

COVER LETTER

The white paper has been improved to ensure that the focus is solely on the City of Toronto, and that the context for the proposal is introduced from the food insecurity angle first.

The causes of food insecurity and food waste are first discussed in the white paper and then contextualised to the Toronto context. This contextualisation part will also offer insights on current City efforts to address the two problems separately.

While not exactly signposted as a "policy debate" since this paper discusses two policy issues together, the justifications for food rescue vis-à-vis other solutions to overcome food insecurity and food waste issues are discussed at considerable length. Essentially, while food rescue is not the silver bullet in itself, it is argued to be a useful complement to the arsenal of measures that the City currently undertakes for the two issues, and should therefore be added.

Visualisations have been generated from raw and processed data that came from various sources in order to support a place-based approach to the solution, which have been expounded in considerable length in this paper.

ADDRESSING FOOD INSECURITY AND FOOD WASTAGE IN TORONTO THROUGH A NEIGHBOURHOOD-BASED FOOD RESCUE INITIATIVE

This white paper aims to advance a proposal for a municipal-led neighbourhood-based food rescue initiative to address the dual issues of food insecurity and food waste in Toronto. The paper will first set the context of both issues in Toronto. Following that, the paper will make the case for food rescue as a viable option to address both issues simultaneously. Lastly, the paper sets out how a probable neighbourhood-based food rescue initiative could look like, as well as its advantages and limitations.

CONTEXT SETTING: FOOD INSECURITY IN TORONTO

Food insecurity is defined as the state of being unable to afford enough quantities of affordable and nutritious food. The City of Toronto (2022), in quoting Statistics Canada's 2021 Canadian Income Survey, stated that 18% of Torontonians live in food insecurity. More often than not, these food-insecure individuals and households largely turn to food banks in order to access food and other daily necessities.

However, food banks have long been criticised as inadequate and ineffective. Janet Poppendieck (1998), in her book *Sweet Charity? Emergency Food and the End of Entitlement*, exposed the following inefficiencies with food banks:

- poor geographic placements because food banks are founded and grown largely due to volunteer strength within an area and not necessarily due to prevalence of food insecurity within it,
- unstable supply of inflows (financial and food donations) because it is inherently dependent on ability and willingness of corporate and individual donors,
- and when supply is available, it is not always nutritious, nor can it meet the cultural or medical needs of food-insecure beneficiaries (Halal food for Muslim clients, low-sodium diets for clients with hypertension, etc.).

Additionally, she pointed out that the act of going to a food bank itself is attached with negative social stigma that may be dehumanising to the beneficiaries. Most importantly, she alleged that food banks existed in the first place because the state cut back on postwar social welfare measures as part of the embrace of neoliberal policies, and therefore shirked its responsibility of ensuring adequate access to food for all. Ultimately, food insecurity is a symptom of growing economic inequality, caused by the unjust economic policies adopted by the state in recent years.

Poppendieck's criticisms are applicable for Toronto's food banks, as representatives lamented the unstable supply of donations and funding to meet the growing demand caused by the recession in the early 1990s and the subsequent cutbacks in social assistance under Premier Mike Harris. They also acknowledged the social stigma that burdens their clients, and how they would do whatever they could with the little they had to try and make the food bank environment less stigmatising for their clients (Wakefield et al., 2012).

To that end, the City of Toronto since 2015 has embarked on *TO Prosperity: Toronto Poverty Reduction Strategy* (PRS), a 20-year plan that aims to holistically address the prevalence and effects of poverty in the city and on its residents, including food insecurity, using the array of tools available to the municipal government (City of Toronto, 2019). On combating food insecurity, the PRS has facilitated funding for

student nutrition programmes in schools, piloted new schemes to secure more food for community organisations, as well as hosted workshops on nutritious food preparation among other things (City of Toronto, 2021).

One would expect that after eight years, there would have been progress on the PRS. A reasonable indicator to assess this would be the number of food bank visits in the city. Worryingly, annual food bank visits in 2023 went up to 2.53 million, an increase of 51% from last year. There has been a staggering 154% increase in new clients across this year, half of whom are either employed or have someone in their household who is employed. This upwards trend had been going on since the COVID-19 pandemic in 2020 (Daily Bread Food Bank & North York Harvest Food Bank, 2023). These statistics suggest that the pandemic has exacerbated poverty and food insecurity in the city, hampering the effectiveness of the PRS.

CONTEXT SETTING: FOOD WASTE IN TORONTO

While the City has a COVID-exacerbated food insecurity crisis at hand, it is also committed to addressing the issue of food waste. A 2018 report found that 47% of food waste happens at the consumer level, while 9% and 10% happens at the food service suppliers (restaurants, take-out joints, etc.) and grocery suppliers (supermarkets, convenience stores) respectively (Singla et al., 2018). The remaining 34% of food waste generation happens at the earlier stages of food production, which typically take place outside of the city boundaries. Since the City revealed in 2018 that, at the household level, more than 99,000 tonnes of food waste that are both avoidable and unavoidable are generated, this would mean that about 40,000 tonnes of food waste originated from supermarkets and food and beverages (F&B) establishments.

Food waste is caused by inefficiencies at every stage in the food system. Concerning the stages that happen within the city boundaries, the following inefficiencies and causes have been identified (MacRae et al., 2016). Firstly, the industry is at fault for having inconsistent labelling conventions that confuses store owners and consumers alike. Retailers are also culprits because they routinely practice cosmetic filtering, where misshapen goods that are still perfectly safe for consumption are thrown out. Restaurants are guilty by having too large menus that necessitate the purchase of a lot of ingredients but may not be ordered by customers by the end of the day. Portion sizes are also getting bigger, causing situations where customers may not be able to finish their food and dispose their leftovers. Lastly, consumers also bear a part of the blame due to over-purchasing groceries and storing them improperly.

To address this, the City has embarked on a *Food Waste Reduction Strategy* (FWRS). This is part of the larger *Long Term Waste Management Strategy*, that aims to divert 70% of all types of waste away from the city's landfills by 2026 (City of Toronto, 2016). Specifically, the FWRS "focuses on information and outreach programs to educate residents about the benefits of food waste reduction." Hence, the city participated in the *Love Food Hate Waste Canada* campaign (City of Toronto, 2018).

There have been no other data on food waste generation after 2018. Hence, the impact from the campaign remains unknown. Notwithstanding that, combating food waste by solely focusing on a public awareness campaign only partially addresses 47% of food waste generation coming from consumers, while completely ignoring the

remaining 19% coming from businesses. This means that the FWRS in its current form is not addressing the food waste issue in Toronto holistically.

FOOD RESCUE AS A SOLUTION

In combating food insecurity, especially post-COVID, it is paramount for all parties to cooperate to realise "short-term coping capacity and medium-term adaptive capacities" so as to facilitate a long-term transformation on the food system (Regnier-Davies et al., 2022). This would mean further cooperation in implementing a range of measures, ranging from establishing emergency food programmes like food banks (for short-term), exploring food security interventions such as community gardens and kitchens (for medium-term), as well as adopting appropriate social and food system policies through a food policy council (for long-term).

To the City's credit, it has implemented some of these measures through PRS. However, nothing in PRS explicitly touched about supporting food banks. COVID-19 also laid bare the limitations of PRS – there would be no student nutrition programmes to fund if schools were closed, and food workshops could not take place because of social distancing measures. For all its shortcomings, food banks became the only way for food-insecure individuals to meet their needs during the pandemic. Having said that, community organisations running food banks lamented that they were struggling with funding and meeting the needs of their increasingly diverse clients during the pandemic (Regnier-Davis at el., 2022).

Hence, while food banks may not the sole panacea to food insecurity, it remains an essential short-term measure that needs to be maintained in times of stability, so that it can be relied on when another crisis hits. As such, the City should attempt to address some of Poppendieck's criticisms about food bank inefficiencies, such as facilitating supply of diverse food, so that it can be a robust short-term measure that people can depend on.

On the other hand, literature on food waste reduction converges upon a food recovery hierarchy, arranged from the most preferred to least (MacRae et al., 2016). The hierarchy is summarised as follows:

- prevention of waste
- food rescue and redistribution
- animal feed
- renewable energy
- composting for agriculture
- landfill

Currently, Toronto only employs three measures from this hierarchy – reduction and prevention through the *Love Food Hate Waste* campaign, renewable energy by separating organic food waste using the Green Bin system, and landfill. It skips the second measure – rescuing food and redistributing it to those in need via food banks, shelters or soup kitchens.

The City should include food rescue and redistribution as part of the measures to tackle food waste because it is less likely to happen at a large scale when left to the private sector. Currently, provincial legislation, Donation of Food Act 1994, already protects donors from liability for any risks arising from their donated food, so long as it

is done in good faith. Despite this, F&B establishments still refrain from donating due to unfounded fears of liability and negative publicity. On top of that, F&B establishments who do want to donate may be hindered by the lack of infrastructure. Insufficient refrigeration at either the food banks or the establishments themselves, as well as lack of refrigerated trucks and drivers have been cited as barriers to donate (MacRae et al., 2016).

Through municipal intervention in setting up a food rescue initiative, the City could better address business concerns about liability and provide the supporting infrastructure. This may in turn reduce food waste and increase supply and variety of donated food, thus supporting food banks in providing emergency access to food and daily necessities to those who need it the most. This supports the short-term measures that should be in place and ready for activation when the next crisis hits.

PROPOSAL FOR A NEIGHBOURHOOD-BASED FOOD RESCUE INITIATIVE

With the above considerations in mind, this paper would like to propose for the City to set up food rescue centres, complete with refrigeration systems, in specific neighbourhoods. F&B establishments in these neighbourhoods would come and drop their donated food at the centre for the staff to inspect the quality and manage them accordingly (raw vs cooked, dietary requirements, etc.). Following that, the City can partner with a local community organisation to run a food bank/soup kitchen based on the food that have been donated, inspected and managed at the food rescue centre.

The City should focus to set up these centres in neighbourhoods that are more likely to have food insecure individuals/households but also do not have any food banks operating within it. This can be visualised using two sources of data – Toronto Public Health's food safety inspections data and the 2021 Ontario Marginalisation Index jointly created by Public Health Ontario, St. Michael's Hospital and MAP Centre for Urban Health Solutions.

From the former data source, we could derive the number of food banks in Toronto – there are 102 in all – and their locations. Meanwhile, the latter data source processes a lot of raw data to create four marginalisation indices – household and dwellings, material resources, age and labour, and racialised populations. For the purposes of this paper, two of the indices – material deprivation and racialised populations – are selected to visualise likelihood of food insecurity across the city because it incorporates data about proportions of social assistance beneficiaries, low-income individuals, single-parent households, as well as racialised and newcomer populations in neighbourhoods across Toronto. These four data are congruous with the factors identified by the City to increase the risk of being food insecure – have a low income, receive social assistance, are racialised, and live in single-parent households (City of Toronto, 2022).

Figure 1 is a bivariate map that maps out material and racial marginalisation as well as food bank presence across all 158 neighbourhoods in Toronto. In the original Marginalisation Index data source, neighbourhoods are ranked on each type of marginalisation separately in quintiles, with 1 being least deprived/marginalised and 5 being most deprived/marginalised. For this visualisation, the quintile values for material deprivation and racial marginalisation are added together and then rescaled to a 1-5 range to create a combined marginalisation index. A higher value on this

combined index would mean that the neighbourhood is more marginalised when looking at both material deprivation and racialised populations together, while a lower value would mean that it is less marginalised.

As such, Figure 1 adopts the following colour classification:

- white: have food banks and marginalisation index value of 3 and lower
- gold: no food banks and marginalisation index value of 3 and lower
- blue: have food banks and marginalisation index value of 3.5 and higher
- red: no food banks and marginalisation index value of 3.5 and higher

From the figure, one could see a clear divide across the city in terms of marginalisation. White and gold areas, areas with lower material and/or racial marginalisation, are all around Midtown Toronto, Downtown Toronto and South Etobicoke, roughly aligning with TTC Line 1 and the western half of TTC Line 2. Meanwhile, the blue and red areas, areas with higher material and/or racial marginalisation, dominate the rest of the city in Scarborough, North York and North Etobicoke. The red areas, which is the focus of this initiative because it is both more marginalised yet underserved by food banks, are largely interspersed within the sea of blue in North York and North Etobicoke. In total, there are 29 of these red neighbourhoods.

Figure 2 isolates these 29 neighbourhoods to facilitate some simple demographic analysis, based on data derived from the City's Neighbourhood Profiles. The figure adopts the following colour scheme:

- dark blue: higher than city's proportion of elderly and young dependents
- purple: higher than city's proportion of young dependents
- light blue: higher than city's proportion of elderly dependents
- grey: lower than city's proportion of elderly and young dependents

For this analysis, elderly dependents are defined as those aged 65 and older, while young dependents are defined as those aged 24 and younger. This departs from the standard age division that Statistics Canada would adopt because youths between the ages of 15 and 24 are the ones more likely to work part-time as they may be in high school or pursuing tertiary education, and thus also more likely to rely on food banks. This analysis may be useful to the eventual operations of the food rescue centre. This is because the food bank operations attached to the food rescue would be interested in ensuring that they are able to provide to the needs of the potential clients in the local area.

For example, food rescue operations in Milliken (indicated in Figure 2) may want to ensure that their food is low in sodium because they operate in a neighbourhood with a higher proportion of elderly residents and would therefore be more likely to encounter elderly clients who present with medical conditions such as hypertension. On the other hand, food rescue operations in Golfdale-Cedarbrae-Woburn (also indicated in Figure 2) may want to look out for more easy-prep foods that can last longer since it operates in an area with a higher proportion of young residents and would therefore be more likely to encounter clients who are attending high school/university that do not have time to prepare elaborate food. In the event that other areas, such as those in grey, happen to rescue more food that is needed in elderly- or young-dominated areas, the City could step in to transport the food across the city.

FUNDING CONSIDERATIONS

It is suggested that the City obtains funding for this initiative from four different sources, considering that this initiative helps to address two different City objectives.

1) City of Toronto's Social Development, Finance and Administration: funds that have been earmarked for the PRS, especially to meet Recommendations 8 and 9 to eliminate hunger and increase access to affordable, nutritious and culturally appropriate food.
2) City of Toronto's Solid Waste Management Services: funds that have been earmarked for the FWRS. Considering that FWRS was originally intended to only have a public awareness campaign, the inclusion of a food rescue initiative as a second strategy of the FWRS may mean that it would not receive a lot of funding from this stream.
3) City of Toronto's Solid Waste Management Services: fees charged for Premium Green Bin Organics Collection. The food rescue initiative is, in essence, another food waste management stream that would likely divert away some food waste from the organics processing facilities. Hence, it would be suitable to use some of the revenues from collection fees to fund this initiative.
4) Food Banks: Currently, food banks incur a lot of expenses in order to manage and maintain their inventory for eventual distribution. As the City is taking over this function through this initiative, food bank partners that will operate alongside the food rescue centres would pay a fee that is lower than the costs incurred has they do it by themselves.

This is by no means an exhaustive list of funding sources. This list is generated purely based on the various strategies and action plans that this initiative could be suitably parked in. There should also be more consultations conducted with the relevant stakeholders, within the City and outside, to better ascertain the funding sources for this initiative, and the proportion that each stream would fund for this initiative.

ADVANTAGES OF THE PROPOSAL

Firstly, this proposal would bring in the City as a player in the food rescue ecosystem, rather than just as an arms-length health and safety regulator that it currently occupies. As a regulator, the City adopts an impartial posture, one that is solely focused on food safety, and may therefore play an adversarial role towards both food banks and F&B establishments by issuing fines or penalties. However, by being intricately involved in the system, the City would have to adopt a more cooperative posture with both parties to ensure the smooth flow of donated food and its safety for human consumption. This would inspire confidence amongst F&B establishments that their donated food would not expose them unnecessarily to liabilities because the same authority that previously just checks on them for food safety now guarantees it.

That is not to say that food safety standards would be compromised. In fact, with the City now being directly involved, they would be the first point of contact to check for food coming out of the F&B establishments. They would be among the first to detect if food coming out from a certain establishment has issues (the other being the consumers). This would lead to timely inspections on the F&B establishments to address the potential health issues before they start to pose serious risks to the general public.

Secondly, this proposal can overcome the issue of infrastructure, which have been cited as a barrier to donating food. Since the City runs the food rescue centre, with all the necessary infrastructure to store the donated food, it relieves the burden on both the F&B establishments and food banks from having to invest in a costly refrigeration system. Additionally, setting up the food rescue centres at a neighbourhood scale reduces the need for an extensive transportation system and a fleet of refrigerated trucks because F&B establishments would be able to send it to the food rescue centres in the neighbourhood.

Thirdly, as the initiative situates food rescue and food bank/soup kitchen operations together, it would bring the City staff and community organisations closer. While there are already extensive links established between the City and community organisations enhanced during COVID-19, it is essential to tap in on local knowledge and utilise trauma-informed approach when discussing and charting plans for food security and resilience (Regnier-Davis et al., 2022). While this initiative alone only meets the short-term needs of providing emergency access to food, partnerships developed through this will allow both the City and community organisations to learn from each other, as well as together on how best to eliminate food insecurity in Toronto.

LIMITATIONS OF THE PROPOSAL

Notwithstanding the advantages, this paper acknowledges that the analysis conducted to identify the suitable neighbourhoods could be improved. No analysis is conducted to map out the rates and types of food waste generated across the neighbourhoods in Toronto. It could very well be likely that this initiative fails because the identified neighbourhoods also happen to have low levels of food waste from F&B establishments, or the types of food waste generated are unavoidable (leftovers from half-eaten food bought by customers, etc.). Locational analysis would be improved if it could be complemented with the food waste lens as well. To overcome this, the City would have to undertake more on-the-ground research on food waste generation across the city, and also with the F&B establishments in the 29 identified neighbourhoods.

Furthermore, this initiative, in the form that is proposed in this paper, does not have any tool to incentivise F&B establishments to get on board and go the extra mile to donate their excess food/raw ingredients to the food rescue centres. The only clear incentive for establishments is that donating food would reduce the amount of unavoidable food waste generated, so they could reduce the frequency of Green Bin collection, thus reducing collection fees. However, these gains may not materialise immediately. It still remains easier for restaurants to throw everything out at the end of the day in a bin right outside their premises instead of sorting out the waste and lugging them to the neighbourhood food rescue centre. A potential tax credit could be explored in order to further incentivise F&B establishments, but this is would require further financial analysis on whether the City could afford it.

Lastly, this initiative is, in essence, a public-private partnership initiative. Poor selection of private partners on social initiatives may produce unintended negative outcomes on the neighbourhood instead of the expected positive outcomes, as literature may suggest (Roberts et al., 2018). On the issue of food security, some representatives from community organisations have raised that financial support have been concentrated in the larger food banks, contributing to "dependency and oppression as

opposed to bridging support and elevating communities" (Regnier-Davis et al., 2022). Hence, it is important that the City chooses the appropriate partners to run the food bank/soup kitchen side of the operations to ensure success of the initiative and the achievement of its objectives. At the end of the day, this is not just about creating more food banks in the city, this is also about establishing a robust short-term infrastructure that can support the diverse city in times of crisis as well as being a stepping stone to develop medium-term and long-term solutions towards food security and resilience for all.

CONCLUSION

The paper would like to advocate for this neighbourhood-based food rescue initiative as a vehicle to achieve two City objectives – reducing food waste and eliminating food insecurity. This is because this initiative helps to complement the current existing strategies to address the two issues and connects them together. Notwithstanding the advantages of raising confidence in safety of donated food, providing infrastructure, and bringing the City and community organisations closer together, the implementation may be further improved. This can be done by ensuring the locations of the food rescue centres are better aligned with other indicators of food insecurity, not just low income, and also aligned with food waste patterns across the city. The City may also want to explore how F&B establishments can be further motivated to donate their food to these food rescue centres, and be selective when choosing the community organisations to partner with them to run the food bank operations.
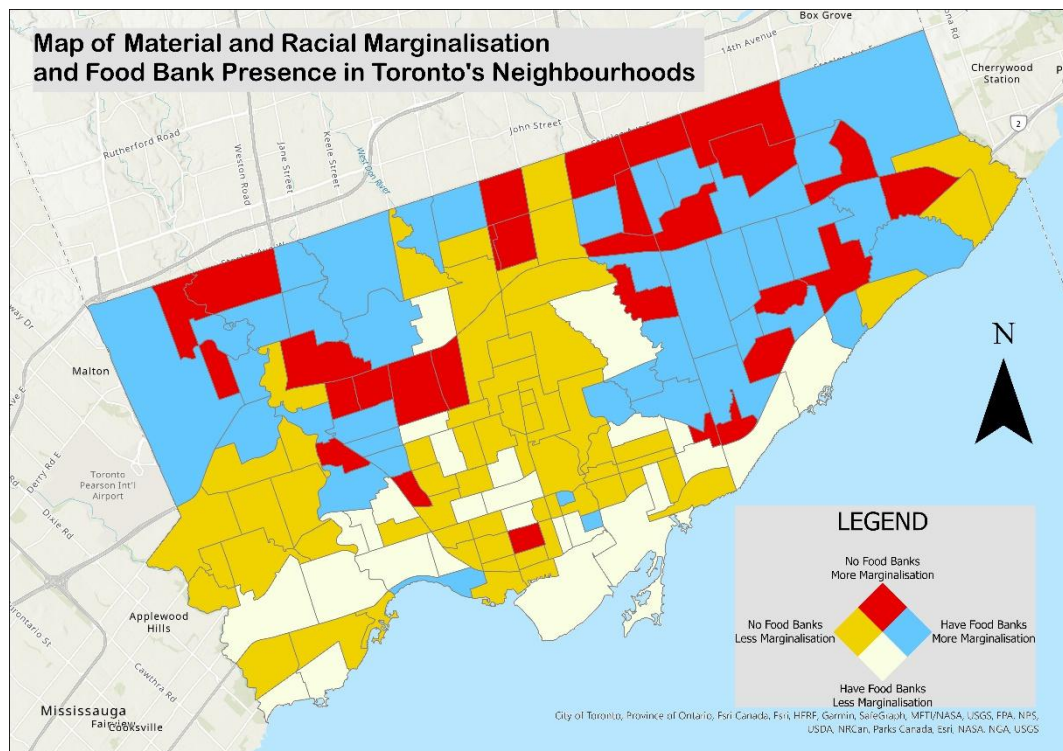
Figure 1: Map of Material and Racial Marginalisation and Food Bank Presence in Toronto's Neighbourhoods (Bin Samion, 2023). Map can be accessed online via https://arcg.is/0ajaDz.
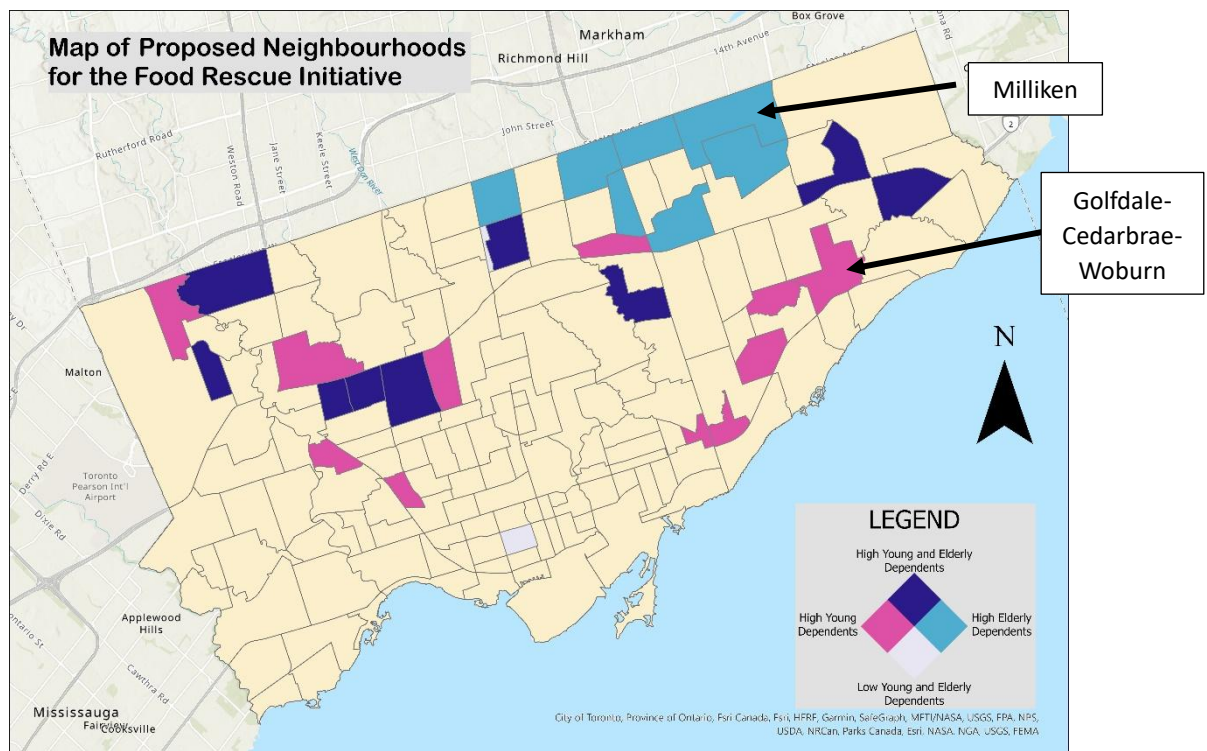
Figure 2: Map of Proposed Neighbourhoods for the Food Rescue Initiative (Bin Samion, 2023). Map can be accessed online via https://arcg.is/0ajaDz.

<u>TABLE 1:</u> List of proposed neighbourhoods for the food rescue initiative

Agincourt North	Bendale South
East Willowdale	Englemount-Lawrence
Golfdale-Cedarbrae-Woburn	Henry Farm
Highland Creek	Hillcrest Village
Humber Summit	Kennedy Park
Kensington-Chinatown	Malvern East
Maple Leaf	Milliken
Mount Dennis	Mount Olive-Silverstone-Jamestown
Newtonbrook East	Oakdale-Beverley Heights
Oakridge	Parkwoods-O'Connor Hills
Pleasant View	Rexdale-Kipling
Rustic	Steeles
Tam O'Shanter-Sullivan	Taylor-Massey
Weston-Pelham Park	Yonge-Doris
Yorkdale-Glen Park	

The 29 neighbourhoods in this table are not currently served by any food banks, with a marginalisation value of 3.5 and above. This means that these neighbourhoods are more likely to have food insecure individuals by virtue of the fact that they may have higher proportions of low-income individuals, social assistance beneficiaries, single-parent households or racialised population than the city. The 14 neighbourhoods highlighted yellow are either classified as a Neighbourhood Improvement Area (NIA) or an Emerging Neighbourhood.

BIBLIOGRAPHY

Bin Samion, M. K. (2023, December 1). *Proposal for neighbourhood-based food rescue initiative in Toronto*. https://arcg.is/0ajaDz

City of Toronto. (2016). *Attachment 1 – Final long term waste management strategy*. https://www.toronto.ca/legdocs/mmis/2016/pw/bgrd/backgroundfile-94038.pdf

City of Toronto. (2018, January 26). *Food waste*. https://www.toronto.ca/services-payments/recycling-organics-garbage/long-term-waste-strategy/waste-reduction/food-waste/

City of Toronto. (2019). *Report from the Deputy City Manager, Community and Social Services on Toronto poverty reduction strategy – 2019-2022 action plan*. https://www.toronto.ca/legdocs/mmis/2019/ex/bgrd/backgroundfile-139479.pdf

City of Toronto. (2021, May 17). *Attachment 1 - status of 2019-2022 poverty reduction strategy action plan activities*. https://www.toronto.ca/legdocs/mmis/2021/ex/bgrd/backgroundfile-166992.pdf

City of Toronto. (2022, November 14). *Food insecurity in Toronto*. https://www.toronto.ca/city-government/accountability-operations-customer-service/long-term-vision-plans-and-strategies/poverty-reduction-strategy/food-security-in-toronto-poverty-reduction-strategy/

City of Toronto. (2023, November 12). *Neighbourhood profiles 2021 - 158 model* [Data table]. https://open.toronto.ca/dataset/neighbourhood-profiles/

City of Toronto. (2023, November 17). *Dinesafe* [Data table]. https://open.toronto.ca/dataset/dinesafe/

Daily Bread Food Bank & North York Harvest Food Bank. (2023). *Who's hungry report 2023: A call to action from a city in crisis*. https://www.dailybread.ca/wp-content/uploads/2023/11/DB-WhosHungryReport-2023-Digital.pdf

MacRae, R., Siu, M., Kohn, M., Matsubuchi-Shaw, M., McCallum, D., Cervantes, T. H. & Perreault, D. (2016). Making better use of what we have: Strategies to minimize food waste and resource inefficiency in Canada. *Canadian Food Studies*, *3*(2), 145-215. https://doi.org/10.15353/cfs-rcea.v3i2.143

Matheson, F., Moloney, G. & van Ingen, T. (2023). *2021 Ontario marginalisation index (ON-Marg2021) – Toronto neighbourhoods (2021)* [Data table]. St. Michael's Hospital and Public Health Ontario. https://www.ontariohealthprofiles.ca/dataTablesON.php

Poppendieck, J. (1998). *Sweet charity? Emergency food and the end of entitlement*. Viking.

Regnier-Davies, J., Yu, M. H. M. & Edge, S. (2022). Preparing for food security after COVID-19: Strengthening equity and resilience in future emergency response in Toronto. *Centre for Studies in Food Security*. https://www.torontomu.ca/content/dam/foodsecurity/Documents/Preparing-for-food-security-after-COVID-19-Strengthening-equity-and-resilience-in-future-emergency-response-in-Toronto.pdf

Roberts, D. J. & Catungal, J. P. (2018). Neoliberalizing social justice in infrastructure

revitalization planning: Analyzing Toronto's More Moss Park project in its early stages. *Annals of the American Association of Geographers*, *108*(2), 454-462. https://doi.org/10.1080/24694452.2017.1365589

Singla, A., Singh, G. & Al Harz, H. (2018). *From farm to fork to landfill: Food waste in Toronto*. https://www.torontomu.ca/content/dam/social-innovation/Tools-Resources/FromFarmtoFork_ReportandBibliography_RU.pdf

Toronto Public Health. (2018). *Toronto food strategy: 2018 report*. https://www.toronto.ca/legdocs/mmis/2018/hl/bgrd/backgroundfile-118079.pdf

Wakefield, S., Fleming, J., Klassen, C. & Skinner, A. (2012). Sweet charity, revisited: Organizational responses to food insecurity in Hamilton and Toronto, Canada. *Critical Social Policy*, *33*(3), 427-450. https://doi.org/10.1177/0261018312458487