DATA & METHODS
Data for this project were collected from the City of Hamilton, DMTI, and Environics Analytics. In order to conduct the analysis, two Origin-Destination Cost Matrices and two Service Areas were built. These were done in order to compare how the McUF transforms the food landscape of McQuesten and its broader impact on Hamilton.

RESULTS & DISCUSSION
To begin, service areas for every grocery store using DMTI Enhanced POI file were generated using drive time in order to understand overall potential food access in Hamilton (Figure 3). While McQuesten is within a five-minute drive distance from several grocery stores, many residents are still food insecure. Residents expressed that income was a major barrier, and this is echoed in the broader literature.19,20 Figure 4 is an OD Cost Matrix calculated for every residential block in McQuesten, using walking time as the travel mode. On average, it only takes ~9 minutes to walk to the Farm from anywhere in McQuesten. The maximum walk time to the farm is 19.5 minutes. Average income by DA is also shown; overall, less wealthy areas are closer to the McUF. Figure 5 is an OD Cost Matrix showing what fresh food options McQuesten residents have within 20 minutes walking time (in order to compare max walk time with the Farm) without the McUF. Several blocks in the neighbourhood do not have any grocers within a 20min walk – these are also the most vulnerable and impoverished areas of McQuesten. Additionally, only 40% of these City Housing tenants surveyed knew about the Farm, compared to 70% of McQuesten residents overall, meaning that they are the least food secure residents in McQuesten.21 Lastly, the McUF doesn't just service the McQuesten neighborhood. A service area was generated for the farm, which can be seen in Figure 6. The McUF's low cost makes it both more financially and spatially accessible than standard grocery stores, but community engagement is needed to realize this potential.

CONCLUSION & FURTHER RESEARCH
Origin Destination Cost Matrices and Service Areas were used to understand the spatial accessibility of the McQuesten Urban Farm for community residents. Those with lower income brackets and limited access to other grocers have greater spatial accessibility to the McUF – however, their knowledge of the farm is also limited.22 Continued outreach combined with further research on how financial and spatial accessibility both play a role in how the Farm alleviates food insecurity is critical to the continued success & funding of the McUF, whose next funding cycle will be up in 2020.23

References:

BACKGROUND
In 2010, the City of Hamilton developed a city-wide Neighbourhood Action Strategy (NAS) that identified eleven priority neighbourhoods to address the various needs of these communities, primarily through community engagement.24 This was a response to the Code Red study released earlier the same year, which revealed how unhealthy and impoverished many parts of Hamilton were. The McQuesten Neighbourhood is one of these eleven communities. Identified as one of Hamilton's food deserts, food security was the most pressing concern for residents of this community - this gave birth to the McQuesten Urban Farm (McUF), which has served over six thousand residents since 2016 and serves as a centralized social space for the community.25 The McUF was built too recently to be captured on satellite imagery, so a mock concept is shown here instead.