Healthy Community Design Baseline Project:

Neighbourhood Design Survey and Physical-Form Indicators

Orangeville

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PublicHealth
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Stay Well.

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Introduction

Wellington-Dufferin-Guelph Public Health (WDGPH) partnered with the municipality of Orangeville to create a tailored baseline of Healthy Community Design (HCD) indicators for the town via a survey among local residents and from physical-form data.

The objectives of this project were:

1. To determine residents' preferences for the built design of neighbourhoods as well as how residents perceive and travel within their current neighbourhood;
2. To gain an understanding of residents' knowledge of the links between HCD features and healthy lifestyle behaviours; and
3. To collaborate with municipal planning departments to strategically select and map valuable, community-specific, physical HCD indicators to be monitored over time.

The baseline indicator data will help identify municipal priorities for HCD and plan for community growth in Orangeville. The survey and collection of physical indicator data will be repeated again in five, ten, and fifteen years to monitor changes over time as the community and population grows.

Background

There is a strong relationship between population health and the built environment in which people live, work and play. Furthermore, communities can be designed in ways that provide economic cost-savings, promote healthy choices and behaviours, and enhance the social well-being of residents. However, there is a gap in the availability of data related to healthy community design, both at the physical level and from residents' perspectives. Collaborative data collection and planning efforts between public health practitioners, municipal planners and other disciplines can address municipal priorities and offer significant benefits to a community.[1]

Healthy Community Design Framework

A Framework for Healthy Built Environment developed by the BC Centre for Disease Control, identifies important elements and principles of a healthy built environment and describes the links between design features, planning and health (Figure 1). Wellington-Dufferin-Guelph Public Health uses the features of this framework to engage with communities to support healthy community design.

The Baseline Indicators Project was structured around four of the five feature areas from this framework: neighbourhood design, transportation networks, natural environments, and food systems. The following sections will highlight the key indicators and findings from these areas.

Figure 1: A Framework for Healthy Built Environment.[1] Adapted with permission by BC Centre for Disease Control (2018).

Icons

Icons used throughout this report indicate the connections among HCD features and the relationships that exist between the various components of this framework.

Data Collection

Survey Development and Distribution

The Neighbourhood Design Survey (NDS) was developed by WDGPH with input from Town of Orangeville municipal staff. In partnership with Forum Research Inc., survey data was collected from October 10th to December 15th 2017. The NDS was primarily promoted and completed online. However, in order to ensure appropriate geographic representation from each study area, geo-targeted random digit dial telephone recruitment as well as in-person, random (i.e. 4th passerby of the general public) interviewing using tablet devices or hardcopy surveys in public spaces, was used to increase the number of completed surveys.

In recognition of differences in the built design between the urban core and surrounding areas of town, Orangeville was divided into two assessment areas that were aligned to match with Census boundaries. They are referred to as the Core and External areas (Figure 2). A total of 725 Orangeville residents were recruited to complete the NDS through the various primary data collection methods depicted in Figure 3. Core residents represented 69% of survey responses, while 31% were from the External area.

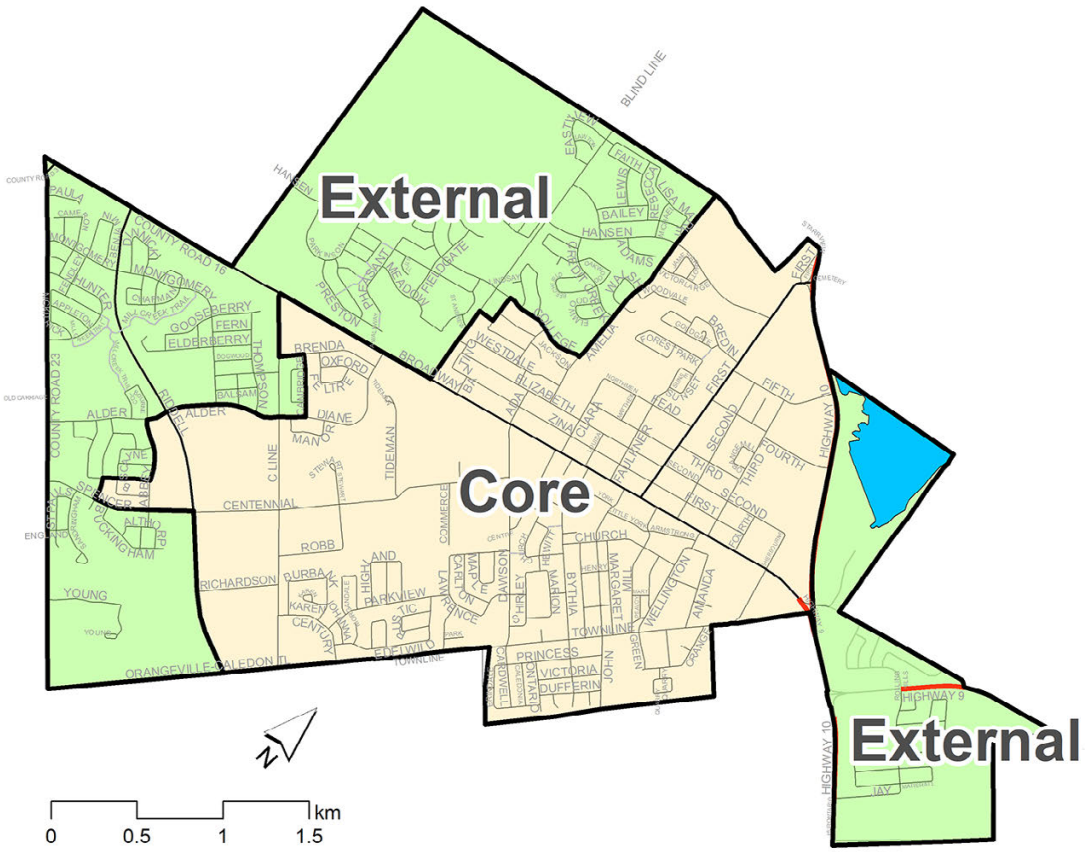


Figure 2: Map of Town of Orangeville illustrating the two assessment areas used for the project.

The people who completed the survey tended to be younger in age, more likely to be female, differed in education level, and represented more residents from the Core area compared to the general population. To compensate for these differences, statistical weighting techniques were used to adjust the survey results to reflect the demographics of Orangeville residents as measured by the 2016 Census data.[4]

During analysis of the NDS, similar variables were combined into one measure to simplify results and identify themes (e.g. “somewhat prefer” and “strongly prefer” combined into “prefer”). The data presented in the following sections of the report highlight key findings and interpretations of these themes. Detailed tables of all variable data can be found in the Appendix. Additionally, when significance testing identified differences in results among the two assessment areas (Core and External) findings were analysed separately, otherwise, results represented Orangeville residents overall.

Physical-Form Indicators

Collaborative discussions between WDGPH and Orangeville planning staff guided the selection of HCD physical-form indicators that reflected municipal growth priorities. Indicator data on these physical components of the built environment was collected from available data sources and, using GIS technology, the data was mapped to align with the assessment areas.[5] The physical design indicators, in combination with NDS perception indicators, contributed towards an understanding of the complexity of the built environment in Orangeville.

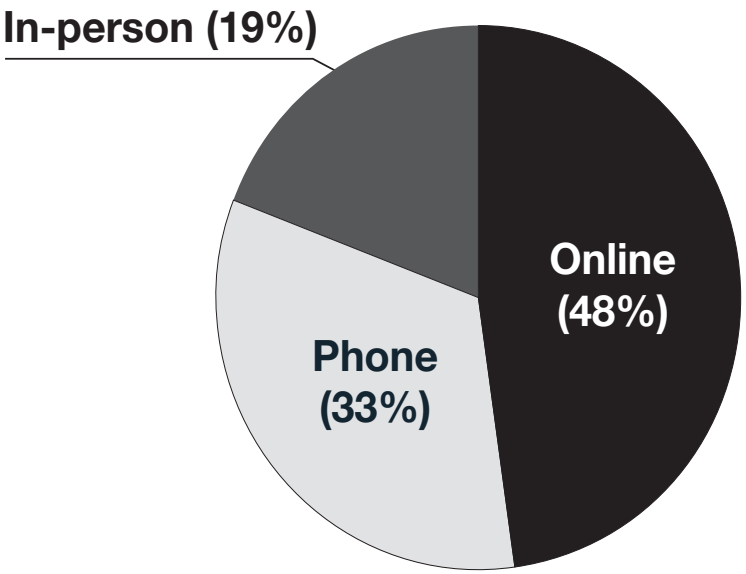


Figure 3. NDS completion rates from online (48%), phone (33%) and in-person (19%) recruitment methods.

Neighbourhood Design

Vision

Neighbourhoods where people can easily connect with each other and with a variety of day-to-day services.[1]

Neighbourhood Design

Healthy neighbourhood design describes a community where people of all ages and abilities can live, work, play, connect and access amenities.[1] When land use decisions prioritize the development of complete, compact and connected neighbourhoods, communities benefit through environmental and economic gains as well as positive impacts on the health and well-being of the population.[1] Specifically, when neighbourhoods have high residential density, mixed land use and strong connectivity, residents are encouraged to walk and cycle within their community.[1]

For the purposes of this survey, "neighbourhood" was defined as anywhere within approximately one kilometer from a person's home, which is about a ten minute walk or three minute bicycle ride.

Neighbourhood Density (Intensification)

In addition to setting provincial mandates for increases in population growth and density, the Government of Ontario prioritizes intensification as a key policy in the Growth Plan for the Greater Golden Horseshoe under the Places to Grow Act 2005. Building compact communities with high increased residential and employment density naturally increases the proximity of community amenities. As a result, residents are regularly encouraged to utilize active modes of transportation such as walking and cycling, to access work, school, recreation or other services.[1]

Key Findings

- Orangeville's dwelling density was greater in the Core area at 7.8 dwellings/ha compared to 5.7 dwellings/ha in the External area.
- The overall population change from 2011-2016 was a growth of 3.3% with the greatest growth occurring in the External area at 8.4%.

Mixed-Use Neighbourhoods

Complete communities encompass a diverse mix of land uses, specifically the inclusion of residential, commercial and recreational development, with additional emphasis on the connectivity amongst them.[1] This type of community design not only supports population growth, but also allows residents of all ages and abilities to safely and easily access common amenities and destinations, engage in active transportation, participate in social interactions, and make connections within the community.[1]

Key Findings

- The majority of Core residents preferred mixed-use neighbourhoods, while just over half of External residents preferred mixed-use neighbourhoods.
- The majority of Core residents thought their neighbourhoods were mixed-use while half of External residents felt their neighbourhoods were not mixed-use.

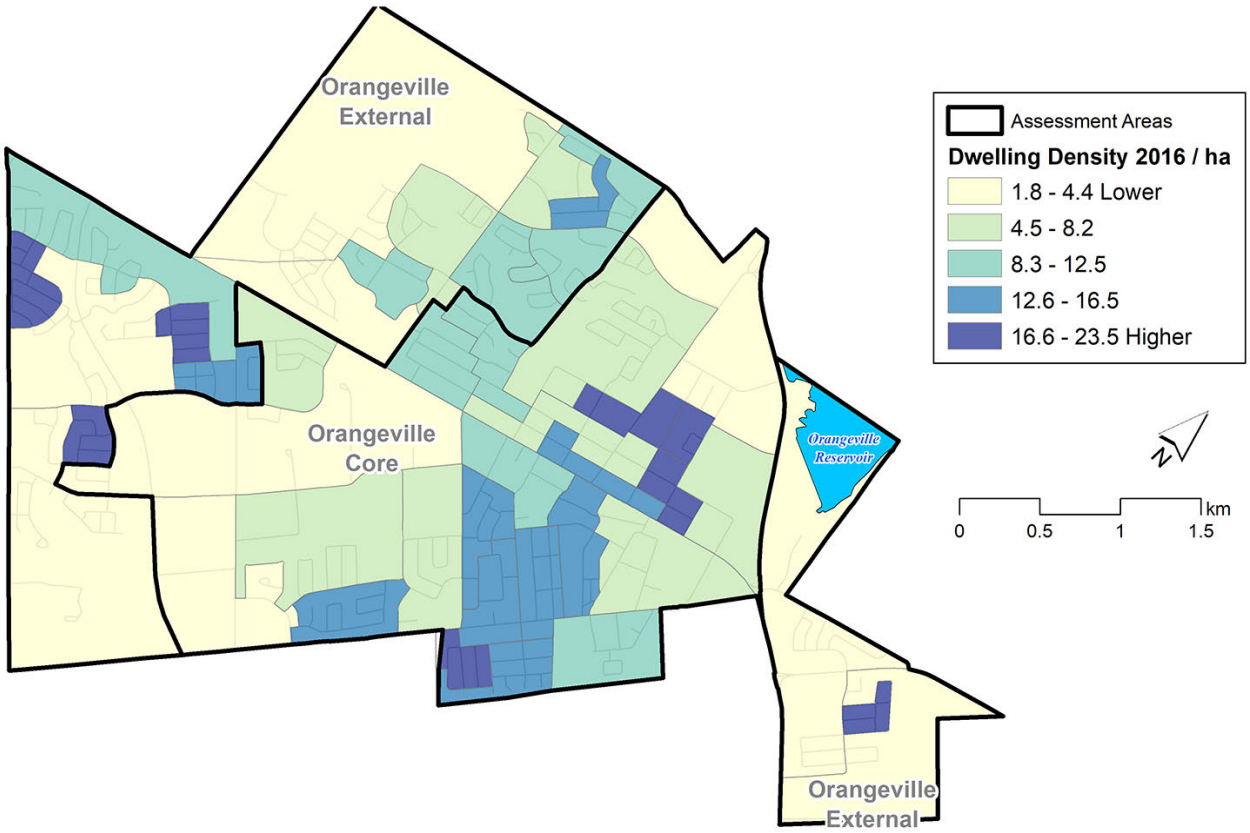
- The majority of Orangeville residents thought mixed-use neighbourhoods encourage healthy behaviours.
- Land-use and zoning showed that the Core area was more mixed-use than the External area.

Connectivity of Neighbourhoods

Neighbourhoods with street and sidewalk connectivity to residential, commercial, and recreational spaces create an efficient network that encourages active transportation, participation in social interactions, reduces dependency on vehicles, and contributes to improved air quality.[1]

Key Findings

- Half of Orangeville residents preferred a more connected neighbourhood.
- Neighbourhoods in the Core showed a slightly higher intersection density than the External, but only half of Core residents felt their neighbourhoods were connected.
- The majority of Orangeville residents thought neighbourhood connectivity encourages healthy behaviours.



Data description:

Sources: Statistics Canada 2016 Census (population density, and DA boundaries), Wellington-Dufferin-Guelph Public Health and the Town of Orangeville (Assessment Areas).

Dwelling density may be used to illustrate how populated a region is, with specific emphasis on housing, or living quarters (e.g. collective dwellings and private dwellings). Dwelling density was measured by unique dwellings per hectare within a Dissemination Area (DA).

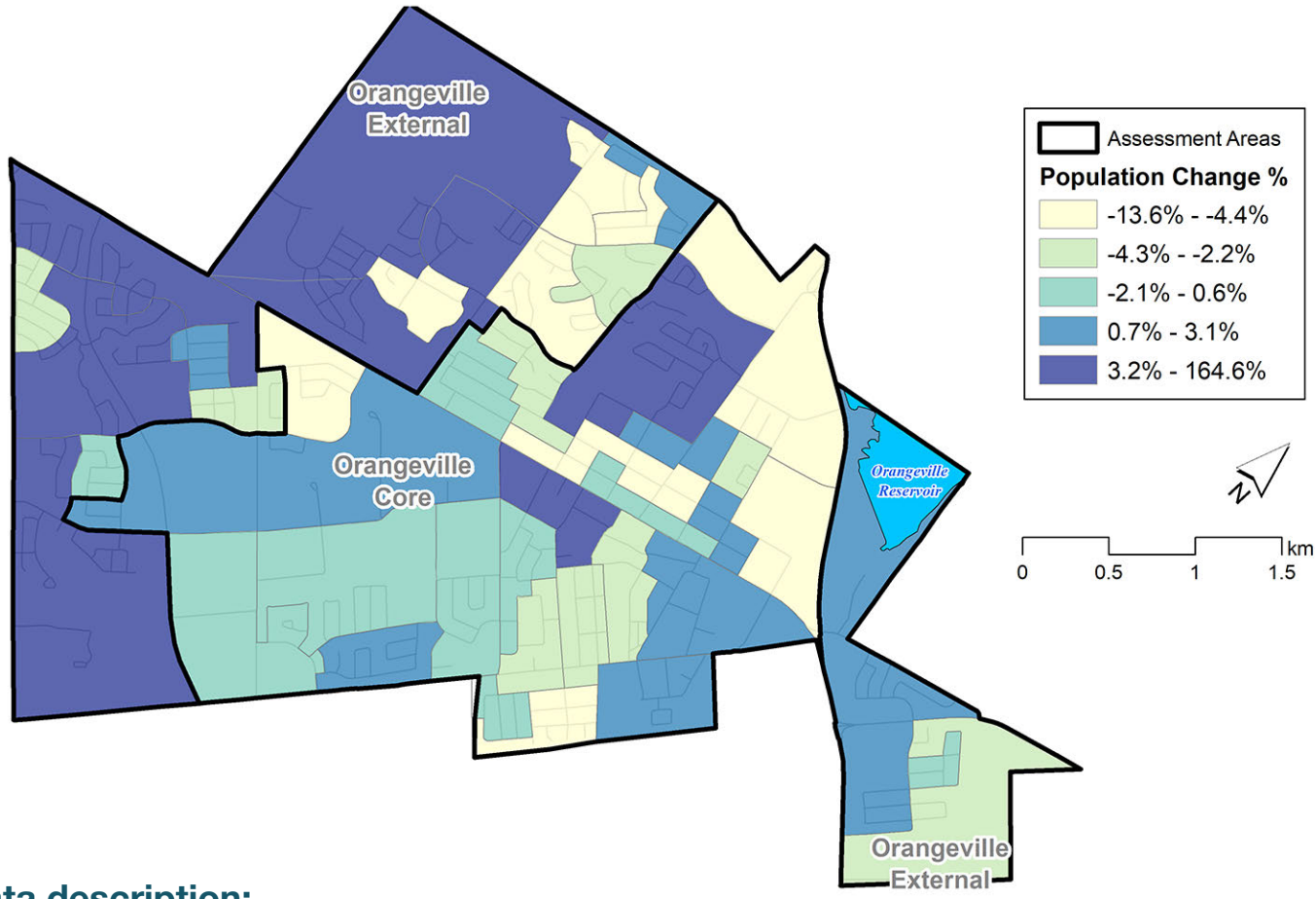
What it tells us:

The overall dwelling density for Orangeville was 6.8 dwellings/ha, with the Core measuring 7.8 dwellings/ha compared to the External at 5.7 dwellings/ha.

The maximum dwelling density observed for Orangeville was 23.5 dwellings/ha and the lowest was 1.8 dwellings/ha.

Making connections:

The dwelling density indicators identified that dwellings were a bit closer together in the Core area of Orangeville, however, the density was fairly uniform across the town and presented a higher average dwelling density than most mid-sized cities (see Appendix). Exploration of residents' perceptions and preferences for the density of their neighbourhoods may help further understand neighbourhood density and areas for intensification within the community.



Data description:

Sources: Statistics Canada (2016 Census), Town of Orangeville, Wellington-Dufferin-Guelph Public Health.

Population change is the difference in population size over a certain time period. It provides a quick snapshot of how the population is changing, specifically, whether it is increasing or decreasing. The use of DA boundaries allows for a more specific measure of change within a smaller geographic area.

What it tells us:

Between 2011 and 2016, the overall population change in Orangeville was a growth of 3.3%. The majority of the growth was in the External area with a population change of 8.4%, while the Core area observed a negative population change of -1.2%. The External area experienced both the greatest increase and the greatest decrease in population change.

Making connections:

Population change, alongside dwelling density may help understand general patterns of change in the community. The areas that experienced the greatest percentage of population change were the same areas identified as having lower dwelling density. Therefore, new developments and even small increases in residential dwellings in areas that were previously less developed, may have contributed to the positive population change.

88% of residents felt mixed-use neighbourhoods like Image C encourage healthy behaviours.

Image C: Shops, services and homes close together.

Image D: Shops and services further from homes.

NDS question:

The NDS used imagery questions to ask about residents' preferences for mixed-use (Image C) compared to less mixed-use (Image D) neighbourhoods, and to select which design looked most similar to their current neighbourhood. "Neighbourhood C" had grocery stores, shops, services and a range of homes close together. "Neighbourhood D" had grocery stores, shops and services further from homes.

A follow-up question asked residents which of the two illustrated neighbourhoods would encourage behaviours such as walking, biking ,or rolling to places they needed to go, getting more daily exercise, feeling safe walking, biking, or rolling to places, driving less to places, and socializing more with neighbours.

What did residents say?

Overall: 88% of all Orangeville residents perceived "Neighbourhood C", the mixed-use design, as encouraging of healthy behaviours.

Core:

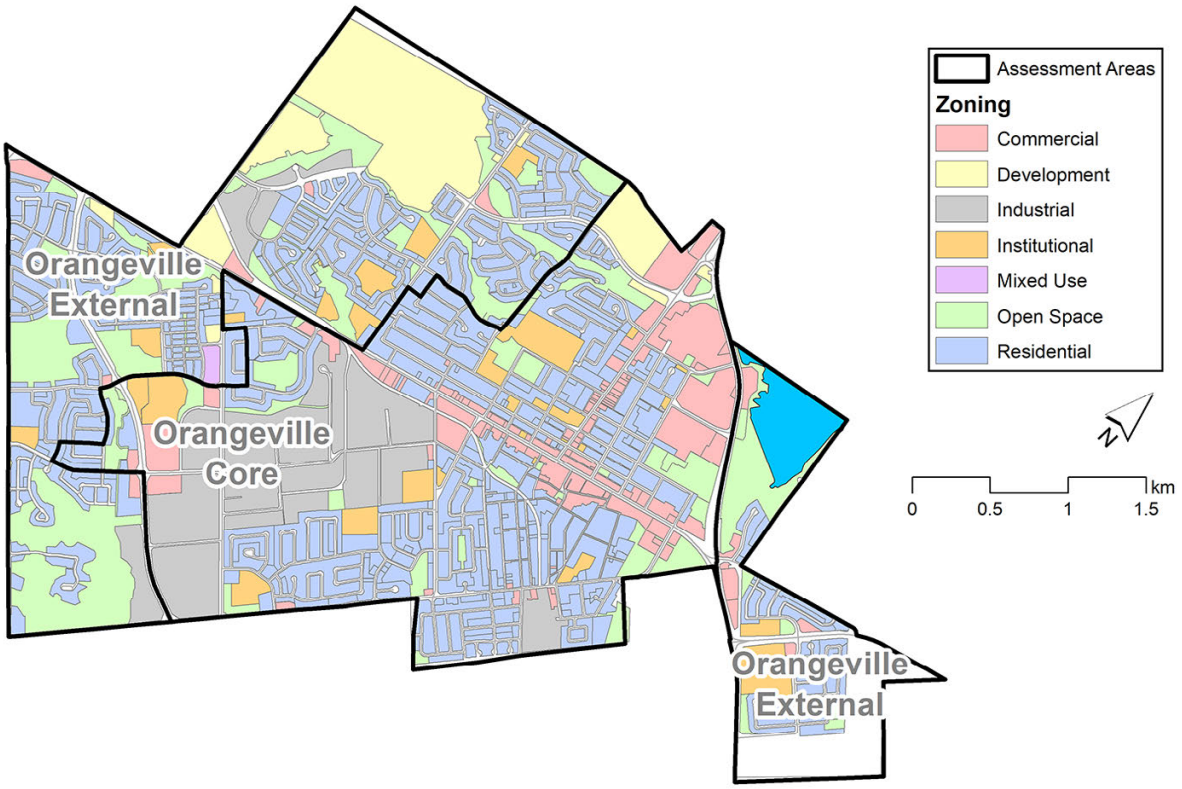
- 68% of residents said they preferred the mixed-use design of "Neighbourhood C".
- 56% of residents thought their current neighbourhood was similar to "Neighbourhood C".

External:

- 55% of residents said they preferred the mixed-use design of "Neighbourhood C".
- 49% of residents thought their current neighbourhood was similar to "Neighbourhood D".

Making connections:

The majority of residents said they preferred mixed-use neighbourhoods and felt mixed-use design would encourage healthy behaviours, both of which could be used to support additional mixed-use planning in the community. Examination of physical design components may help explain whether residents' active travel behaviours related to the built design of their neighbourhood.



Data

Sources: Town of Orangeville, Wellington-Dufferin-Guelph Public Health.

The land-use/zoning indicator identified where different types of properties were permitted within the community. Zoning data was generalized into seven categories of land use types and was calculated as a percentage of the total zoned area within each assessment area.

What it tells us:

Overall, residential-type land use represented over 40% of all zoning area in Orangeville, followed by open space (21%), industrial (14%), development (10%), and commercial (9%).

The amounts of residential and institutional zoning were similar in the External and Core areas. Percentage of commercial land use was more than six times greater in the Core compared to the External, and industrial zoning was over five times greater in the Core.

The External area had more than three times the percentage of zoned land for open space compared to the Core, and six times as much land available for future development.

Making connections:

Mapping showed that the Core area was more mixed-use than the External area, which correlated with resident perception indicators. Such information may support opportunities for future mixed-use planning, especially in the External area.

Considerations:

Data was generalized into broad categories so it does not show the density or classification of the vast number of residential dwelling types which varied across both study areas.

50%

of residents preferred the connected neighbourhood design of Image E

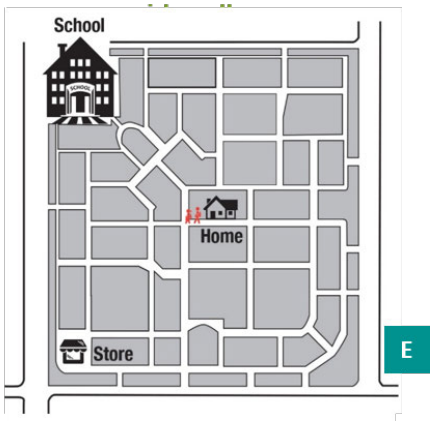


Image E: Neighbourhood with streets in a grid-pattern with sidewalks on both sides of the road.

Image F: Neighbourhood with curved streets, several cul-de-sacs, and may have fewer sidewalks.

NDS question:

Residents were presented with images and a brief description of two different neighbourhood connectivity designs. “Neighbourhood E” (Image E) was described as having streets in a grid-pattern with sidewalks on both sides of the road. “Neighbourhood F” (Image F) was described as curved streets, with several cul-de-sacs and may have fewer sidewalks. Respondents were asked to think about which neighbourhood they would prefer if they were moving to a different neighbourhood as well as which design their current neighbourhood looked more like.

In addition, residents were asked which of the two neighbourhood designs would encourage healthy behaviours such as walking, biking, rolling to places they needed to go, driving less to places, getting more exercise, feeling safe using active modes of travel, and socializing more with neighbours.

What did residents say?

Overall: 50% of all Orangeville residents preferred the connected neighbourhood design of “Neighbourhood E” and 74% felt this design was encouraging of healthy behaviours.

Core:

- 53% of residents felt their current neighbourhood was connected similar to “Neighbourhood E”.

External:

- 58% of residents felt their current neighbourhood was most similar to “Neighbourhood F”.

Making connections:

Although resident perceptions were not overwhelmingly strong related to preferences for a more connected neighbourhood design, other NDS indicator data, such as *Resident reported active travel* (pg. 26), showed that residents were using active transportation. Physical design indicators also showed that connected active transportation networks were in place to promote such behaviours.

Data description:

Sources: Town of Orangeville, Statistics Canada, Wellington-Dufferin-Guelph Public Health, Ontario Ministry of Natural Resources and Forestry Roadnet-Element.

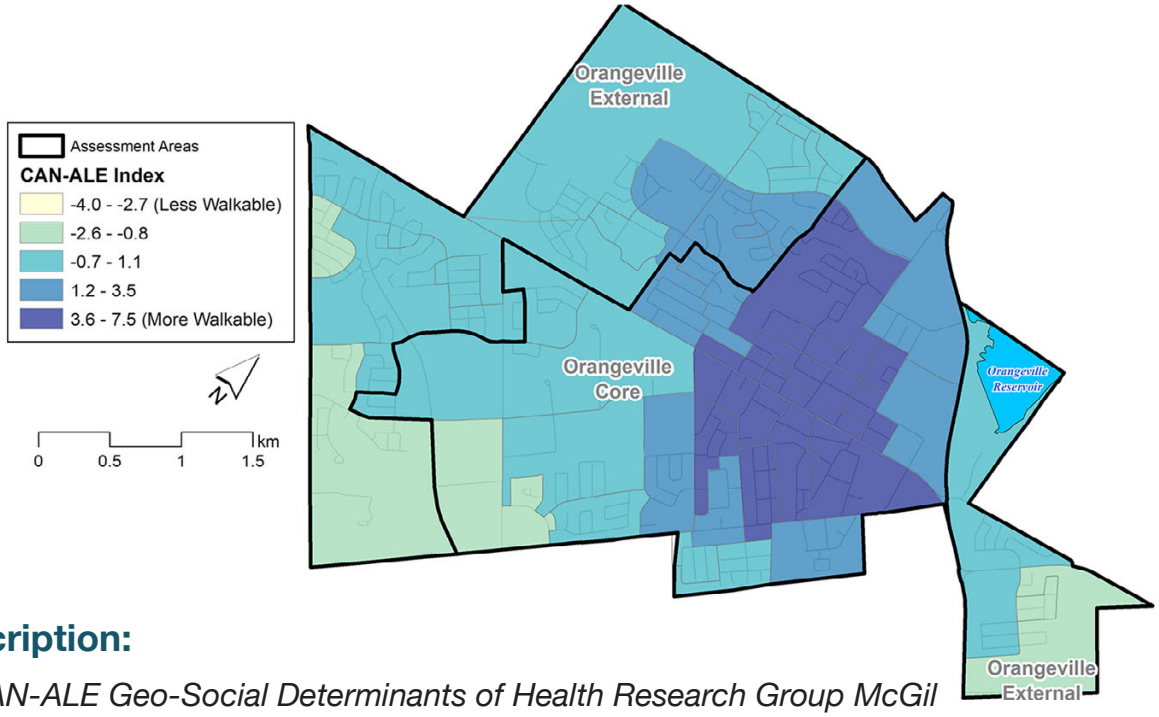
Intersection density can be used to understand the connectivity of neighborhoods and is derived from the number of intersections that connect streets in three or more directions, excluding cul-de sacs, dead-end streets, and crescents that do not provide connections to the broad transportation network.

What it tells us:

Intersection density varied across the region, but overall, the intersection density for Orangeville was 0.26 intersections/ha. Neighbourhoods in the Core showed a slightly greater intersection density of 0.29 intersections/ha compared to the External area at 0.23. Intersection density was lower in the External area where road lengths were longer and in residential areas that contained more cul-de sacs and dead end streets.

Making connections:

Measures of intersection density can indicate neighbourhood connectivity; the varying intersection density across the community correlates with the mixed results of residents' perception and preferences for the connectivity of their neighbourhoods. Interestingly, the intersection density indicators identified the Core as more connected than the External, which matched with survey findings, as half of Core residents felt their neighbourhoods were connected.



Data description:

Sources: CAN-ALE Geo-Social Determinants of Health Research Group McGil University, Town of Orangeville, Statistics Canada, Wellington-Dufferin-Guelph Public Health.

The CAN-ALE Index measures how active travel-friendly an area is for connections to common living activities. It is comprised of three components: dwelling density, number of connected intersections, and number of destinations (e.g. shopping, libraries, parks, and other points of interest).[3]

What it tells us:

Most areas of Orangeville appeared to be average or highly walkable with the strongest CAN-ALE scores in the Core area and some less walkable areas in the External area. The highest score indicated an area that was 7.5 times more walkable than similar sized towns.

Making connections:

The CAN-ALE scores showed that the Core area should be more walkable than the External area. However, more residents from the External area participated in active transportation compared to residents in the Core area. The NDS also found that residents most frequently reported outdoor recreation destinations as important to actively travel to, but these locations are not captured well by the CAN-ALE Index. More residents in the Core area (58%) reported community life destinations (see page 26) as being important to travel actively to, compared to only 40% of residents in the External area. These destinations are primarily measured in the CAN-ALE Index and therefore the CAN-ALE scores align with this NDS finding. However, what appears to be driving active transportation in Orangeville overall is the easy access to parks, greenspace, trails, and exercise.

Considerations:

The CAN-ALE index does not account for recreational walking opportunities, nor the presence of sidewalks and paths. Raw CAN-ALE scores were used to create a walkability index based on other Ontario communities that had similar populations between 20,000 and 40,000 residents.

Transportation Networks

Vision

Safe and accessible transportation systems that incorporate a diversity of transportation modes and place priority on active transportion over the use of private vehicles.[1]

Transportation Networks

Active Travel-Friendly Neighbourhoods

Communities that prioritize active transportation are designed to offer street connectivity, continuous sidewalks, bike lanes, and proximity and connection to trails and greenspace.[1] Active transportation networks promote universal active living, but they also create safe and equitable access to amenities for residents of all ages and ability, as well as provide environmental benefits through reduced vehicular emissions.[1]

Key Findings

- External residents felt their neighbourhoods were more active travel-friendly and reported more active travel behaviours than Core residents.
- Most dwellings in Orangeville were located within 800m of a park, whereas less than half of dwellings were located the same distance from a supermarket.
- There was an abundance of trail networks throughout the study areas, largely in the External.

Active Travel Behaviour (and On-road Safety)

Various factors influence a person's decision about how to travel in their neighbourhood including perceived and real safety, fear of crime and violence, traffic speeds, traffic volume, presence of sidewalks, lighting, cycling lanes, and accessibility of amenities.[7]

Key Findings

- Sidewalk to road ratios across Orangeville indicated a low presence of sidewalks on both sides of the street.
- Bus transit in Orangeville appeared to service residential areas, especially in the Core, and most residents felt they could actively travel to a nearby bus stop.

72% of Core residents felt they could travel actively to at least 5 of the 13 locations.

85%: a school

77%: a bus stop

74%: a park or greenspace

78% of External residents felt they could travel actively to at least 5 of the 13 locations.

88%: a school

87%: a park or greenspace

79%: a bus stop

NDS question:

Residents completing the NDS were asked to think about their neighbourhood and select, from a list of 13 locations, those that could be accessed by walking, biking and/or rolling. Locations included: a park or greenspace, a school, a grocery store, farmers market, a community garden, a bus stop, a trail, local stores or shops, work, a health care provider, a community centre, family or friends, and to exercise.

What did residents say?

Core:

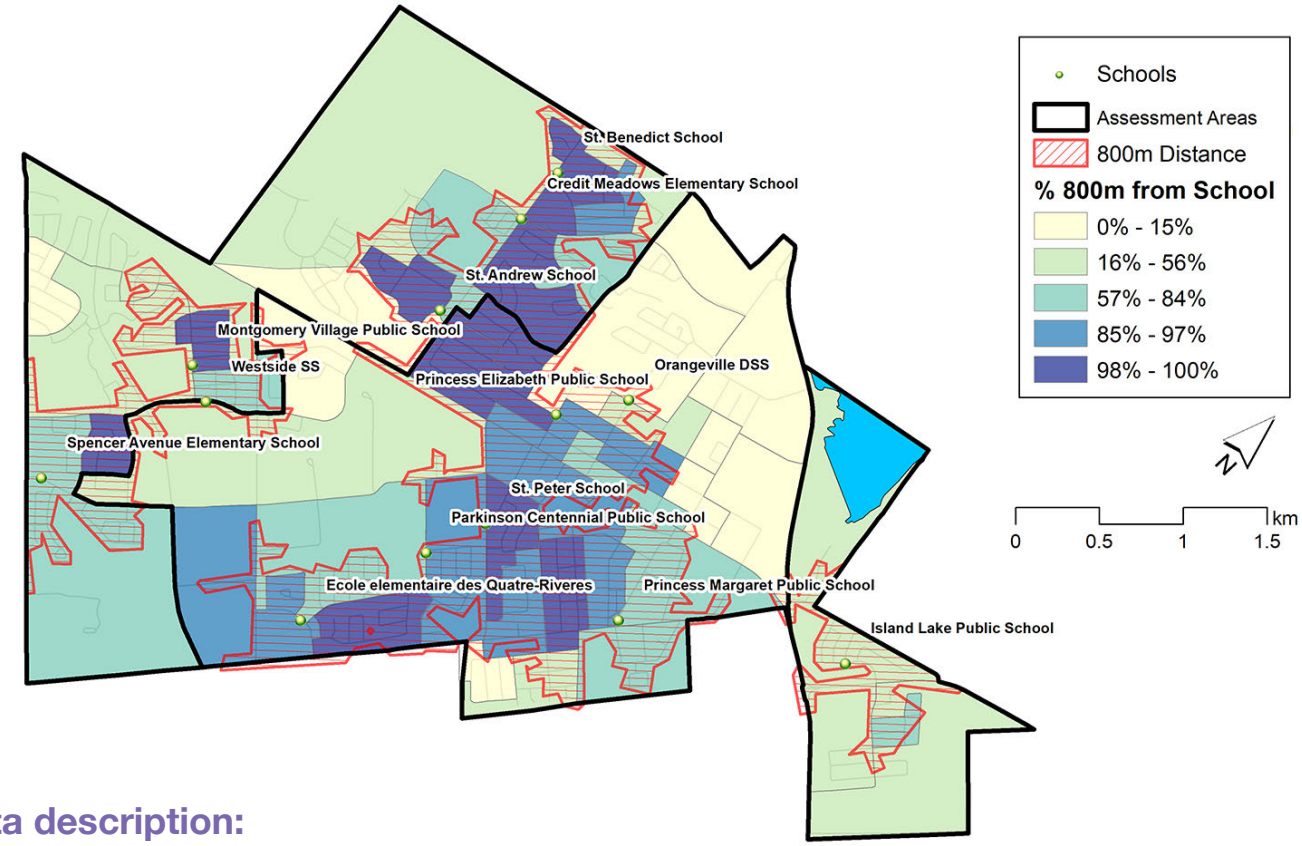
- 72% of Core residents felt they could travel actively to five or more locations.
- The locations most frequently selected were: a school (85% of Core residents), a bus stop (77%), park/greenspace (74%).

External:

- 78% of External residents felt they could travel actively to five or more locations.
- The locations most frequently selected were: a school (88% of External residents), park/greenspace (87%), a bus stop (79%).

Making connections:

Residents' perceptions on whether they could walk, bike or roll to common destinations conveniently and safely likely influenced their decisions to do so. Closeness to active transportation networks including walkways, sidewalks, trails and bicycle paths, as well as the proximity of daily amenities may have contributed to residents' perceptions. Physical design indicators can help further explain contributing factors in the built design that support residents' abilities to travel actively.



Data description:

Sources: *Town of Orangeville, Statistics Canada, Wellington-Dufferin-Guelph Public Health, Ontario Ministry of Natural Resources and Forestry.*

The indicator identified the proportion of dwellings that were within 800m (measured by Manhattan distance) of a school in the community.

What it tells us:

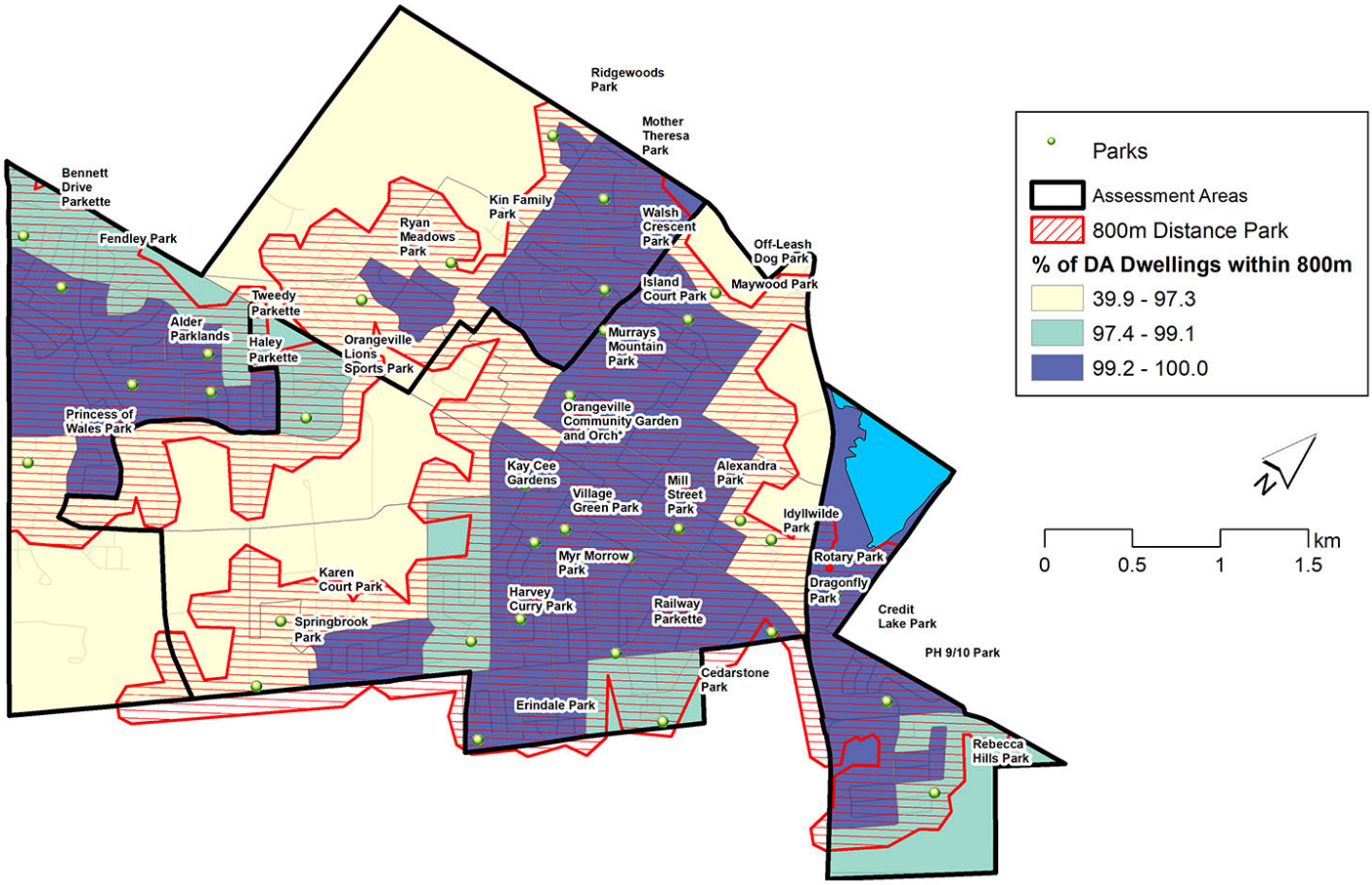
Overall, 59% of dwellings within Orangeville were located within 800m of a school. The percentage of dwellings within 800m of a school was higher in the Core area at 63% compared to the External area at 55%.

Making connections:

Interestingly, resident perception data showed that 85% of Core and 88% of External residents felt they could walk, bike or roll to a school. Further exploration of related community design indicators and considerations of child walking behaviours may help in understanding why more residents perceived they were within closer proximity to a school than the physical design indicators showed.

Considerations:

School bussing policies in the region requires that students walk to school unless the travel distance is 1.6 km (ages 4-11), 3.2 km (ages 12-14) and 3.5 km for those 14 and older.[6] Also, the NDS was completed by residents 16 years of age or older, which may have biased the responses since the majority of students walking to elementary and high schools are younger.



Data description:

Sources: Town of Orangeville, Statistics Canada, Wellington-Dufferin-Guelph Public Health, Ontario Ministry of Natural Resources and Forestry.

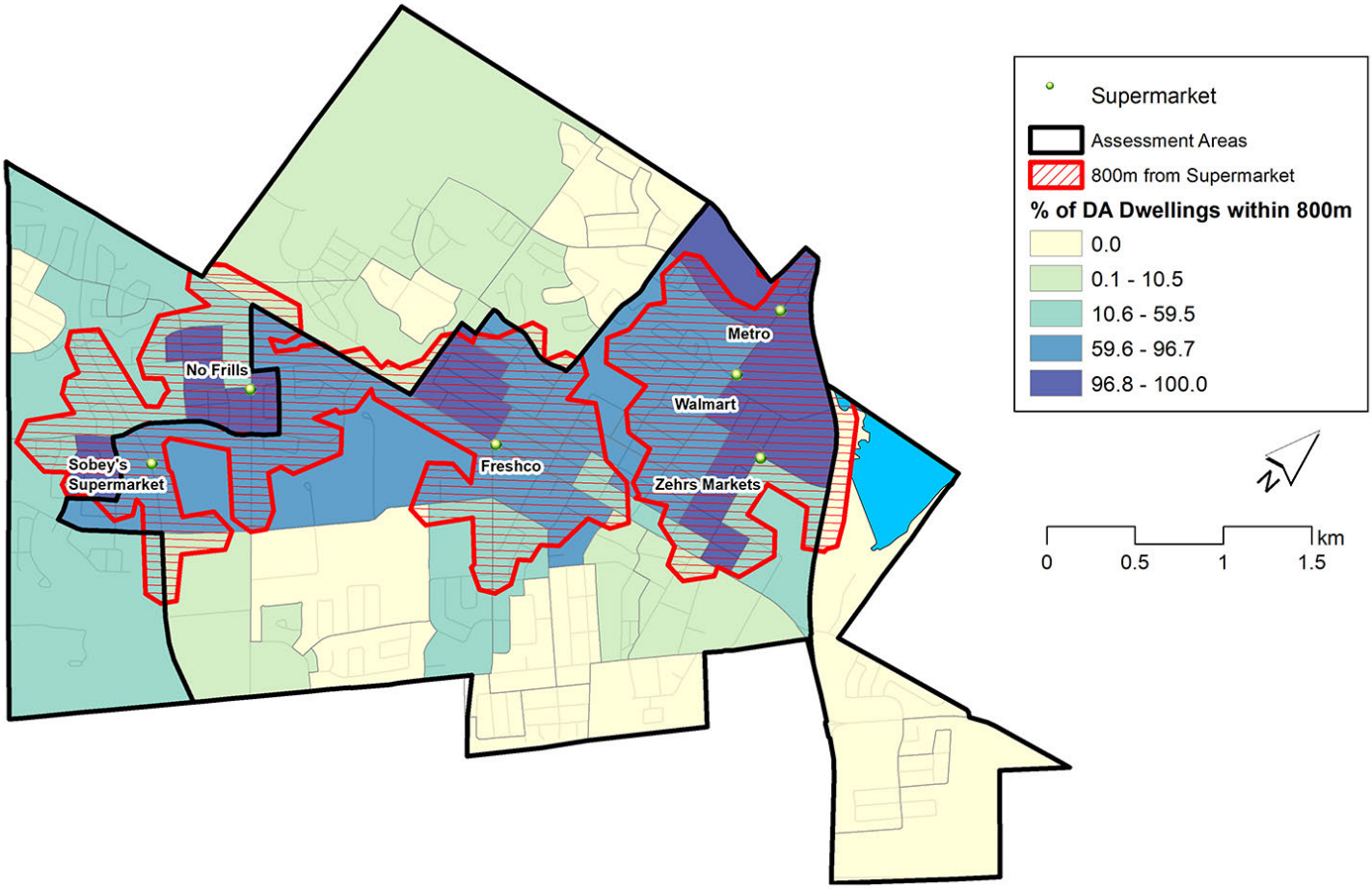
The indicator identified the percentage of residential dwellings in the Orangeville assessment areas located within 800m (measured by Manhattan distance) of a park.

What it tells us:

Overall, over 93% of dwellings in Orangeville were located within 800m of a park. Measures were higher in the Core area with 96% of dwellings within 800m of a park, compared to 90% in the External area.

Making connections:

Most of the high dwelling density and populated areas appeared in close proximity to one or more parks. Resident perception data from External residents correlated with this physical design indicator as 87% of residents felt they could actively travel to a park or greenspace, but only 74% of Core residents felt the same way.



Data description:

Sources: Town of Orangeville, Statistics Canada, Wellington-Dufferin-Guelph Public Health, Ontario Ministry of Natural Resources and Forestry.

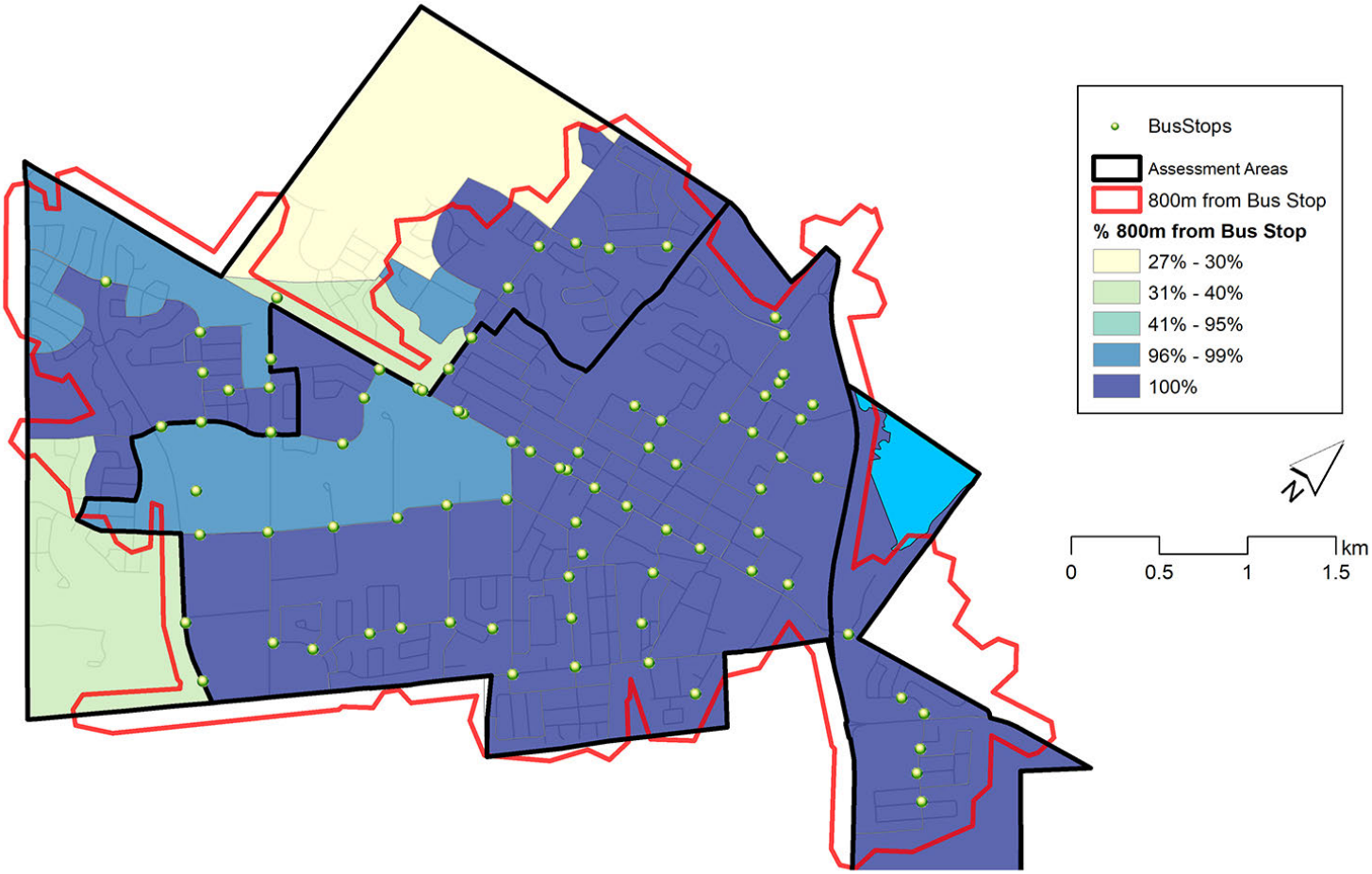
The indicator identified the percentage of residential dwellings in the Orangeville assessment areas located within 800m (measured by Manhattan distance) of a supermarket.

What it tells us:

The overall percentage of dwellings within Orangeville that were located within 800m of a supermarket was 30%. Specifically, 41% of dwellings in the Core area and only half as many (20%) in the External area were within 800m of a grocery store.

Making connections:

Interestingly, 63% of Core residents and 60% of External residents felt they could actively travel to a grocery store, which was higher than what was observed in the physical design indicators. Further exploration of related community design indicators or resident perception of what defines a supermarket, may be useful in explaining this discrepancy.



Data description:

Sources: Town of Orangeville, Statistics Canada, Wellington-Dufferin-Guelph Public Health, Ontario Ministry of Natural Resources and Forestry.

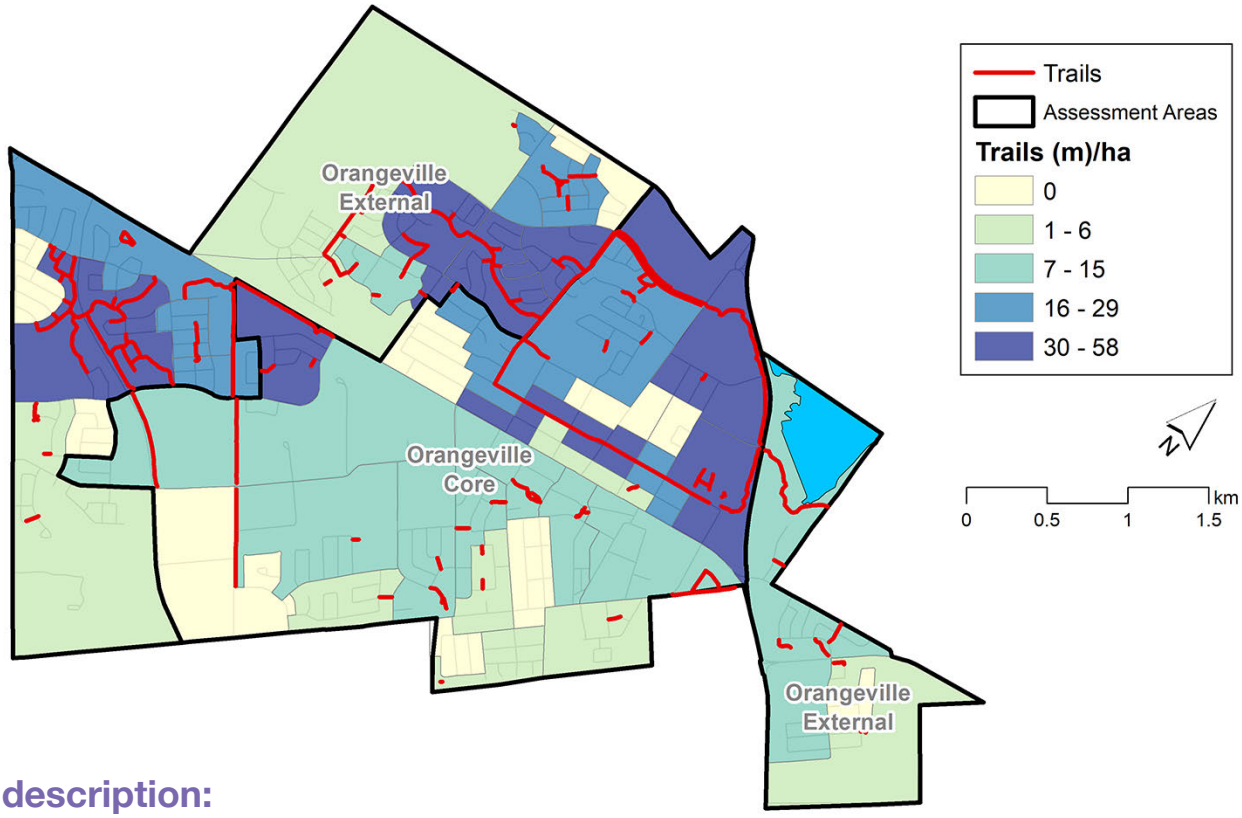
The indicator identified the percentage of residential dwellings in the Orangeville assessment areas that were located within 800m (measured by Manhattan distance) of a bus stop.

What it tells us:

The overall percentage of dwellings within Orangeville that were located within 800m of a bus stop was 91%. Almost 100% of dwellings in the Core area were within 800m of a bus stop, whereas only 81% of dwellings within the External area were within this same proximity.

Making connections:

Most of the densely populated areas of Orangeville were within 800m of one or more bus stops which contributes towards a well-connected transportation network and supports active travel among residents. Perception indicators from External residents aligned very closely with the physical indicators. However, perceptions from Core residents were slightly less than the physical indicators as only 77% of residents felt that they were within this distance to a bus stop.



Data description:

Sources: Town of Orangeville, Wellington-Dufferin-Guelph Public Health.

Measuring the length of designated trails per hectare of land is used to indicate trail coverage in a community. Since trails are measured linearly (in metres) rather than measured in area, the calculation of metres of trail per hectare in each Dissemination Area (DA) was developed.

What it tells us:

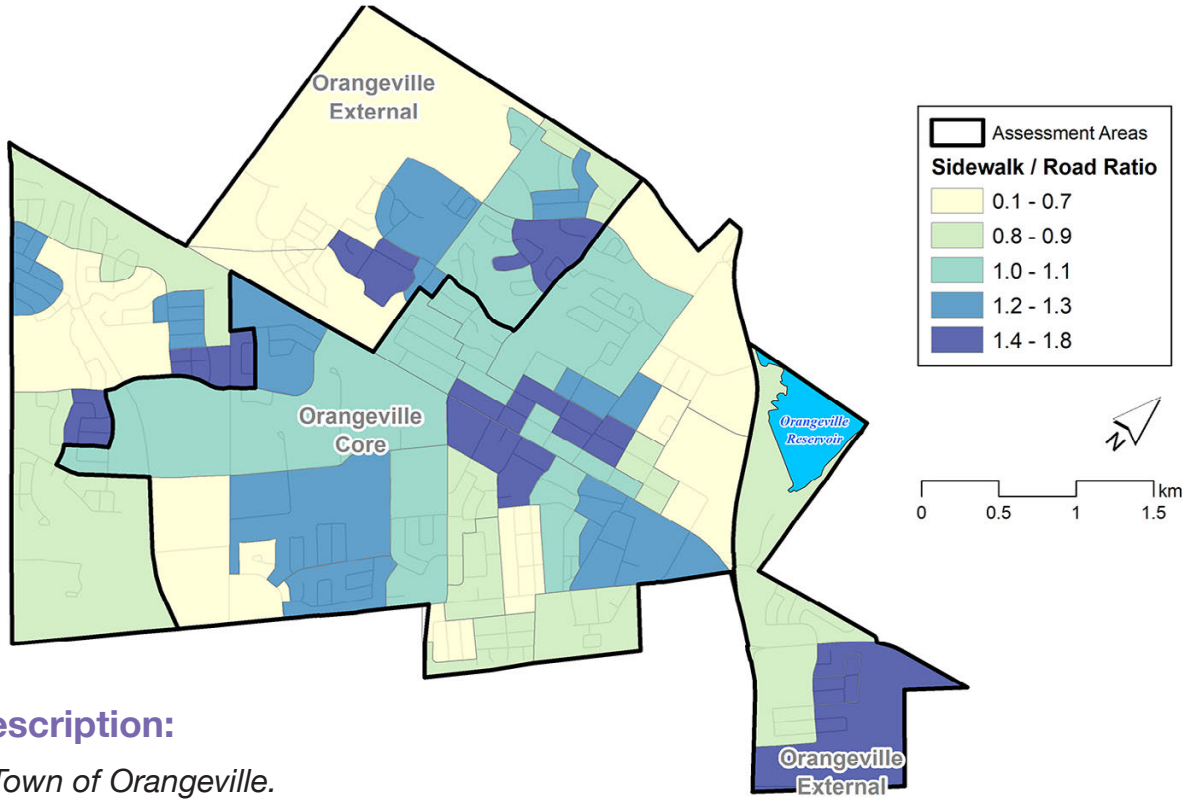
It was determined that Orangeville had an abundance of continuous trail coverage across both study areas, especially in the External, but many of which also extended into and around the Core areas. A total of 14.5 m/ha of trails was measured in the External area and 10.5 m/ha was measured in the Core area. Beyond the main trails, the connectivity of trails was not greatly apparent due to numerous smaller, discontinuous trails.

Making connections:

Many areas of Orangeville were connected through the trail network including parks, recreation, community centres, and the downtown. Trail extension into even some of the high density areas in both the Core and External was evident. These high areas of trail coverage reflected resident perception indicators that found that 69% of External residents and 51% of Core residents felt they could walk, bike or roll to a trail, and 64% of all residents felt it was important to have nearby trails.

Considerations:

Since trails may have been a series of connected trails or a single long, linear, connected trail, the connectivity of trails or the main use of trails was not identified with the indicator.



Data description:

Source: Town of Orangeville.

The sidewalk to road ratio was used to measure the amount of roads with sidewalks on one or both sides of the street. It was calculated by dividing the length of sidewalks located in a Dissemination Area (DA) by the length of roads within the DA. For example, a measure of 2 would represent a road having sidewalks on both sides.

What it tells us:

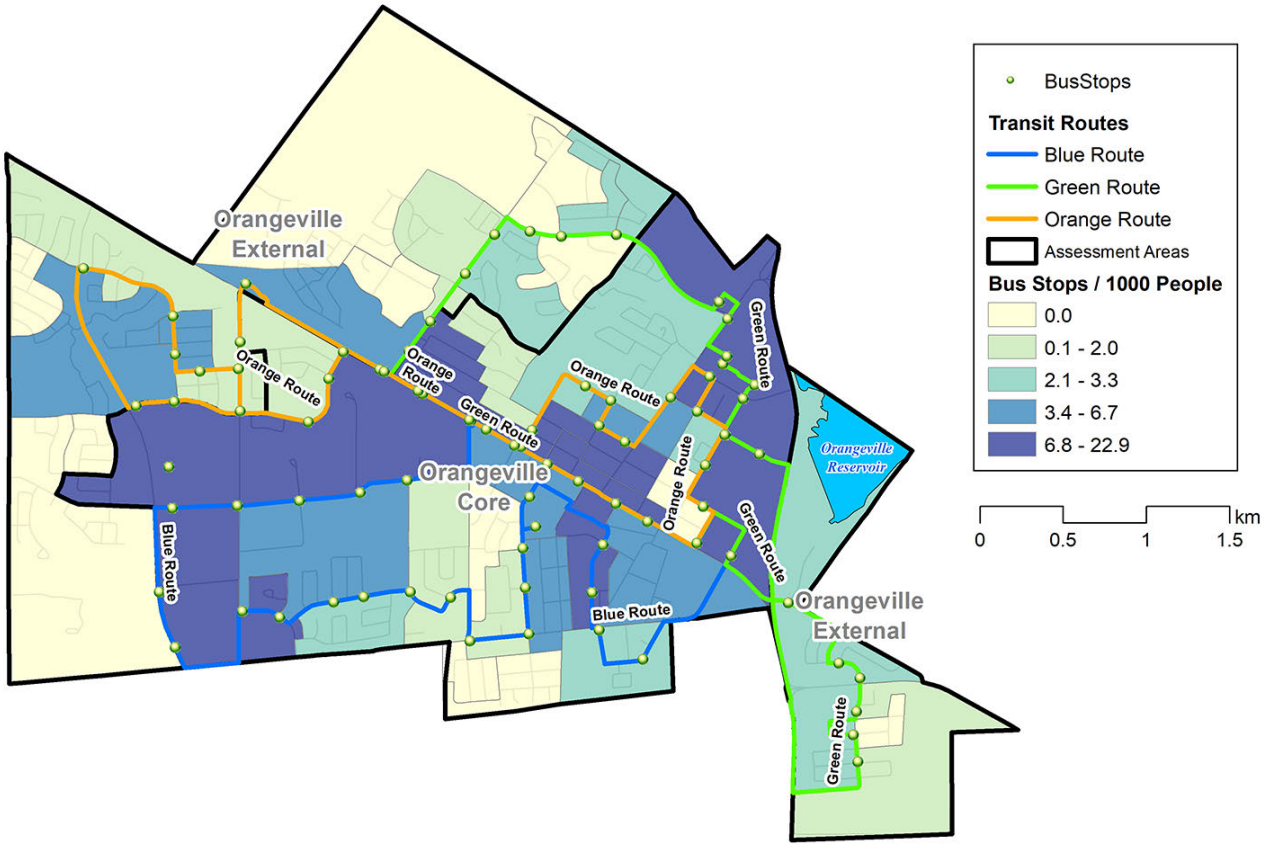
There appeared to be large variation in measures between neighboring DAs and across study areas. Orangeville had an overall sidewalk to road ratio of 0.93 indicating a low presence of sidewalks on both sides of the street. There was a slightly higher proportion of sidewalks to roads in the Core with a ratio of 0.95, compared to 0.91 in the External area.

Making connections:

Sidewalks encourage activate transportation by providing a sense of safety for pedestrians. There were some trends of higher sidewalk to road ratios in the same areas of high dwelling density. There were also areas across the town identified as lacking sidewalks on both sides of the road. Interestingly though, 56% of Core residents and 65% of External residents reported walking, biking or rolling to locations they reported as being accessible by active modes of travel. This suggests residents are using other types of active transportation networks in addition to sidewalks, such as trails.

Considerations:

Sidewalks are often fractured and non-continuous which presents a challenge to link directly with roads and creates difficulty in quantifying this type of relationship.



Data description:

Sources: Town of Orangeville, Welllington-Dufferin-Guelph Public Health.

Transit stops per 1000 people (# of transit stops within a DA/population x 1000).

What it tells us:

Orangeville had three bus routes throughout the town with a total of 102 bus stops. There were 77 bus stops in the Core area and 25 bus stops around the External area.

Making connections:

Bus transit in Orangeville appeared to service the areas of residential development, especially in the Core. Notably, 77% of Core residents and 79% of External residents felt they could access a bus stop by walking, biking or rolling. Communities can be designed in a way that accommodate for easy access to public transit through the use of sidewalks, bicycle lanes, and direct connections of neighbourhoods to existing transit and commuter routes.

Percentage of Orangeville residents who reported actively travelling to at least two-thirds of the locations they had reported as being accessible by active modes of travel.

56%
Core

65%
External

NDS question:

For the locations residents indicated in a previous question that they could actively travel to, residents were subsequently asked whether they actually did walk, bike, or roll to those places in the past three months.

What did residents say?

Core:

- 56% of residents reported traveling actively to some or many (at least two-thirds) of the locations they reported they could travel actively to.

External:

- 65% of residents reported traveling actively to some or many (at least two-thirds) of the locations they reported they could travel actively to.

Making connections:

Interestingly, more External residents reported that they could travel actively to five or more locations and reported more active-travel behavior compared to Core residents. Physical design indicators such as the presence of trail networks in the External area, as well as the distance to locations that residents perceived they could travel actively to (e.g. school, park or greenspace, bus stop), may have been contributing factors in the built design that supported External residents' abilities to travel actively.

39%
Commuting Destinations

58% Core | 40% External
Community Life Destinations

64%
Outdoor Recreation Destinations

NDS question:

The NDS survey asked residents to imagine moving to a different neighbourhood and to indicate the importance of being able to walk, bike or roll to a list of 13 different destinations. For analyses, locations were categorized into three general destination categories: community life destinations included grocery store, farmers markets, community garden, local stores/shops, health care provider, community centre, family/friends; outdoor recreation destinations included park/greenspace, trail, and exercise; commuting destinations included school, bus stop, and work.

What did residents say?

Overall: 64% of all Orangeville residents felt it was important to be able to travel actively to outdoor recreation destinations compared to only 39% for commuting destinations.

Core:

- 58% of Core residents felt it was important to access community life destinations.
- The most frequently selected destinations that residents stated as being important to travel actively to were: grocery store, local stores/shops, and park/greenspace.

External:

- 40% of External residents felt it was important to access community life destinations.
- The most frequently selected destinations residents stated as being important to travel actively to were: park/greenspace, family/friends, and a trail.

For an outline of all locations and responses, please refer to the Appendix.

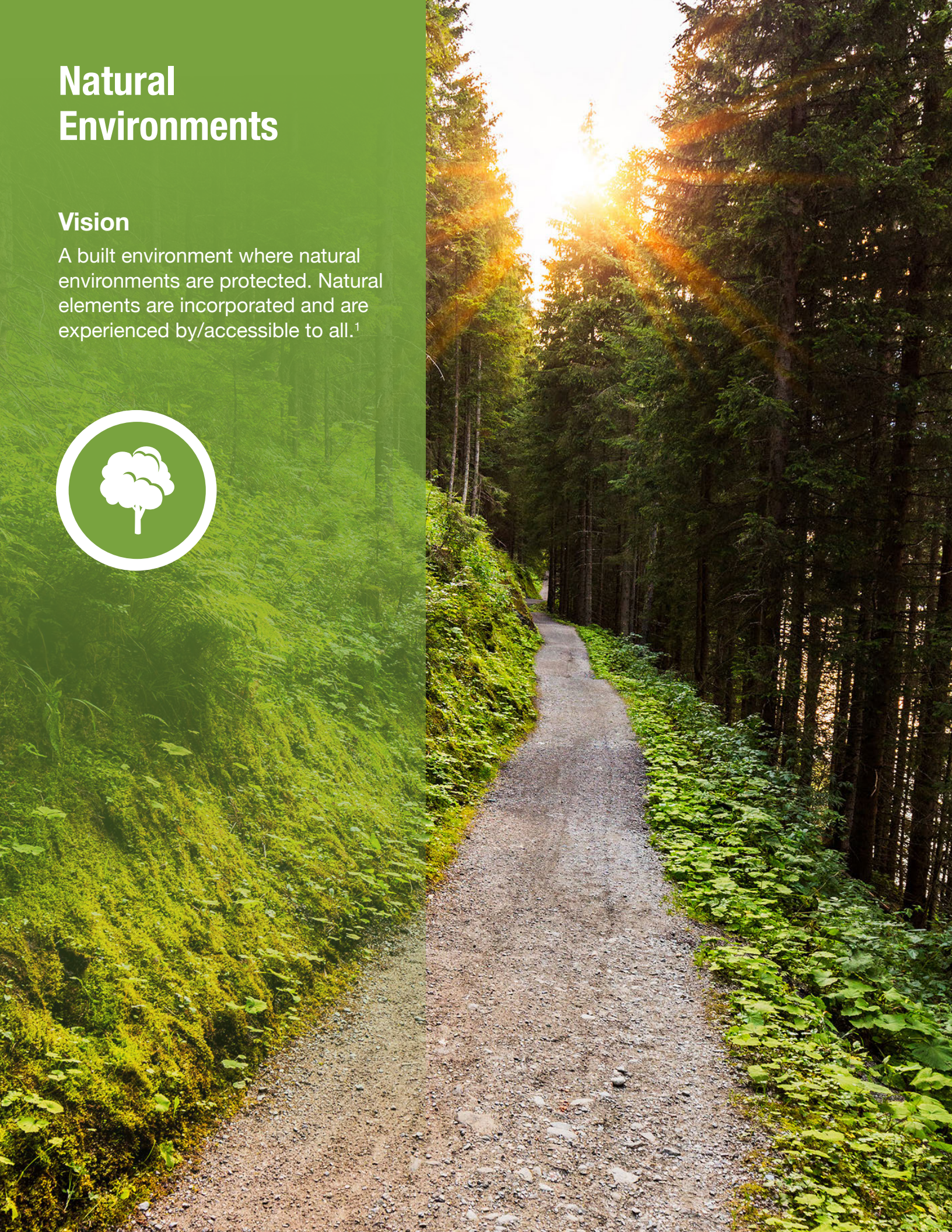
Making connections:

Municipal planners could benefit from knowing the types of locations that residents like to travel actively to. This information could be useful for prioritizing mixed-use and connectivity throughout the community. Aligning community design with residents' interests would encourage active transportation since many residents reported actively travelling to locations they felt they could actively travel to.

Natural Environments

Vision

A built environment where natural environments are protected. Natural elements are incorporated and are experienced by/accessible to all.[1]



Natural Environments

The preservation of the natural environment and development of communities that integrate and connect to natural heritage spaces and existing greenspace can be significantly beneficial for the health and well-being of the population, while sustaining a healthy environment.[1]

Buildings, shade, greenspace, and parks and playgrounds that are plentiful and appealing, supports activity-friendly environments for residents of all ages and abilities.[1]

Greenspace

Designing neighbourhoods that are connected closely to recreational parks and open greenspace provides easy access for residents to engage in various ways with the natural environment. This has been shown to have a positive impact on physical activity levels, mental health, and overall well-being.[1] In addition, regular maintenance and snow removal on trails and pathways, allows residents to enjoy the benefits from natural parks and greenspace throughout the year.

Key Findings

- Most Orangeville residents felt various natural and active transportation features were important for their neighbourhood.
- The overall percentage of greenspace in External areas of Orangeville was 40%, compared to 17% of total area in the Core area.
- Over 90% of dwellings were within walking distance to a park.

Green Infrastructure

The benefits of nature are not limited to access to natural parks and open greenspace. The incorporation of natural landscapes, such as street trees, can offer many public health benefits including improved air quality, reduced storm water runoff and decreased impervious surface cover which minimizes extreme weather events.[1] Furthermore, a tree canopy can provide an increase in shade, thereby offering UV protection as well as an aesthetic appeal that can encourage residents' engagement in outdoor physical activity.

Key Findings

- Street trees were identified as an important neighbourhood feature to most residents.
- Physical indicators showed that street trees were present in areas of residential development.

Percentage of residents who felt each identified feature was important in their neighbourhood:

78%
Street Trees

77%
Connectivity

74%
Nearby Greenspace

64%
Nearby Trails

55%
Neighbourhood Social Gathering Spot

NDS question:

Residents were presented with a list of five features and asked to report on whether they felt the identified feature was important to have if they were moving to a different neighbourhood.

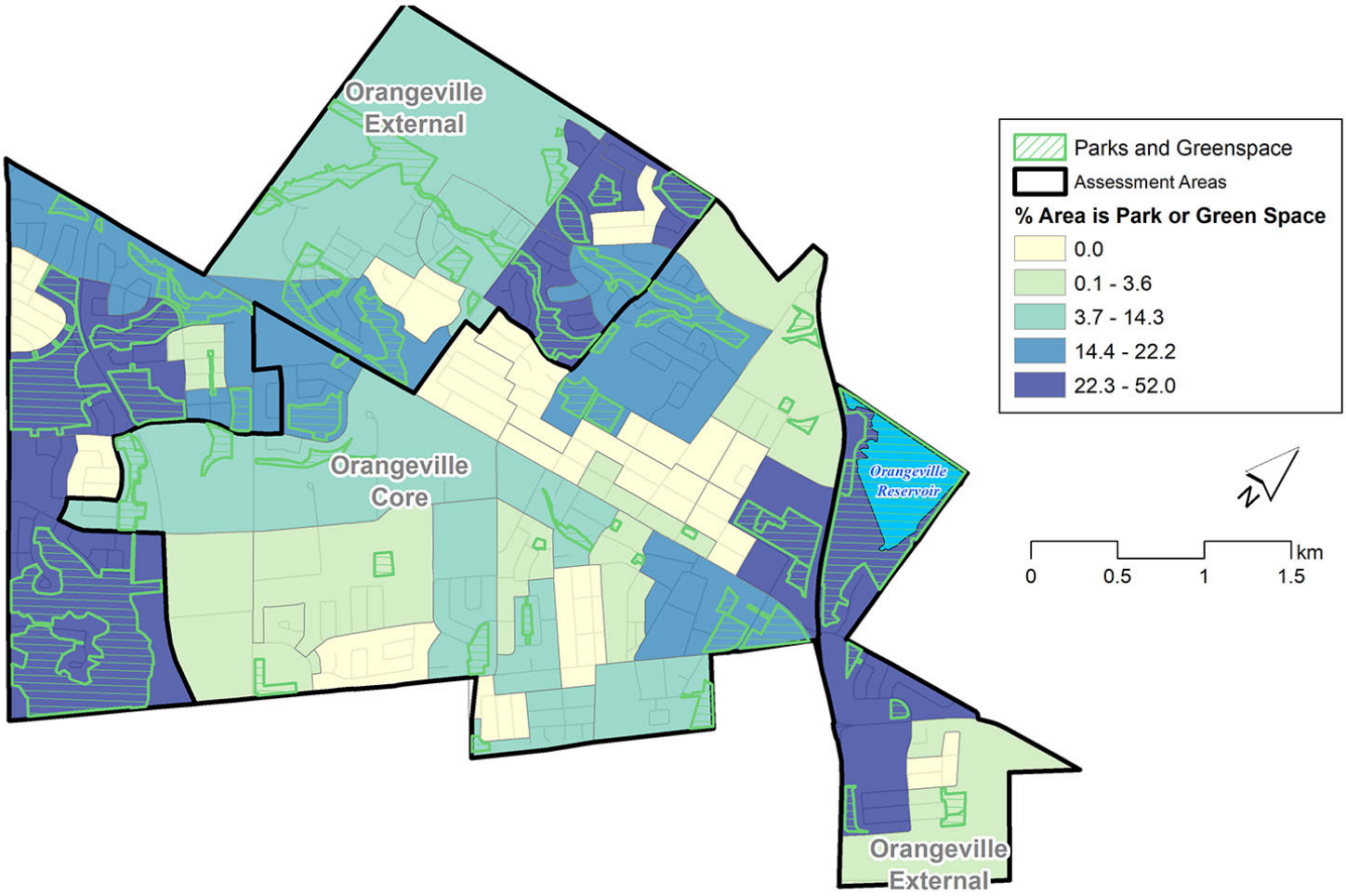
What did residents say?

Overall, all Orangeville residents felt the various natural and active transportation features were important for a neighbourhood. Specifically, 78% of residents identified street trees as an important feature to a neighbourhood and 74% reported nearby greenspace as important. Connectivity of neighbourhoods was identified as important to 77% of residents and 64% of residents felt nearby trails were important.

Additionally, 55% of all Orangeville residents identified neighbourhood social gathering spot as an important feature to have in a neighbourhood.

Making connections:

The most frequently selected features correlated with the survey responses indicating that 64% of residents reported the importance of being able to travel actively to outdoor recreation destinations such as park/greenspace, trails and for exercise. Also, physical design indicators showed that trail coverage, proximity to greenspace, and connectivity throughout the Core and External areas of the community, thereby aligning with residents' interests.



Data description:

Sources: Town of Orangeville, Statistics Canada, Wellington-Dufferin-Guelph Public Health, Ontario Ministry of Natural Resources and Forestry.

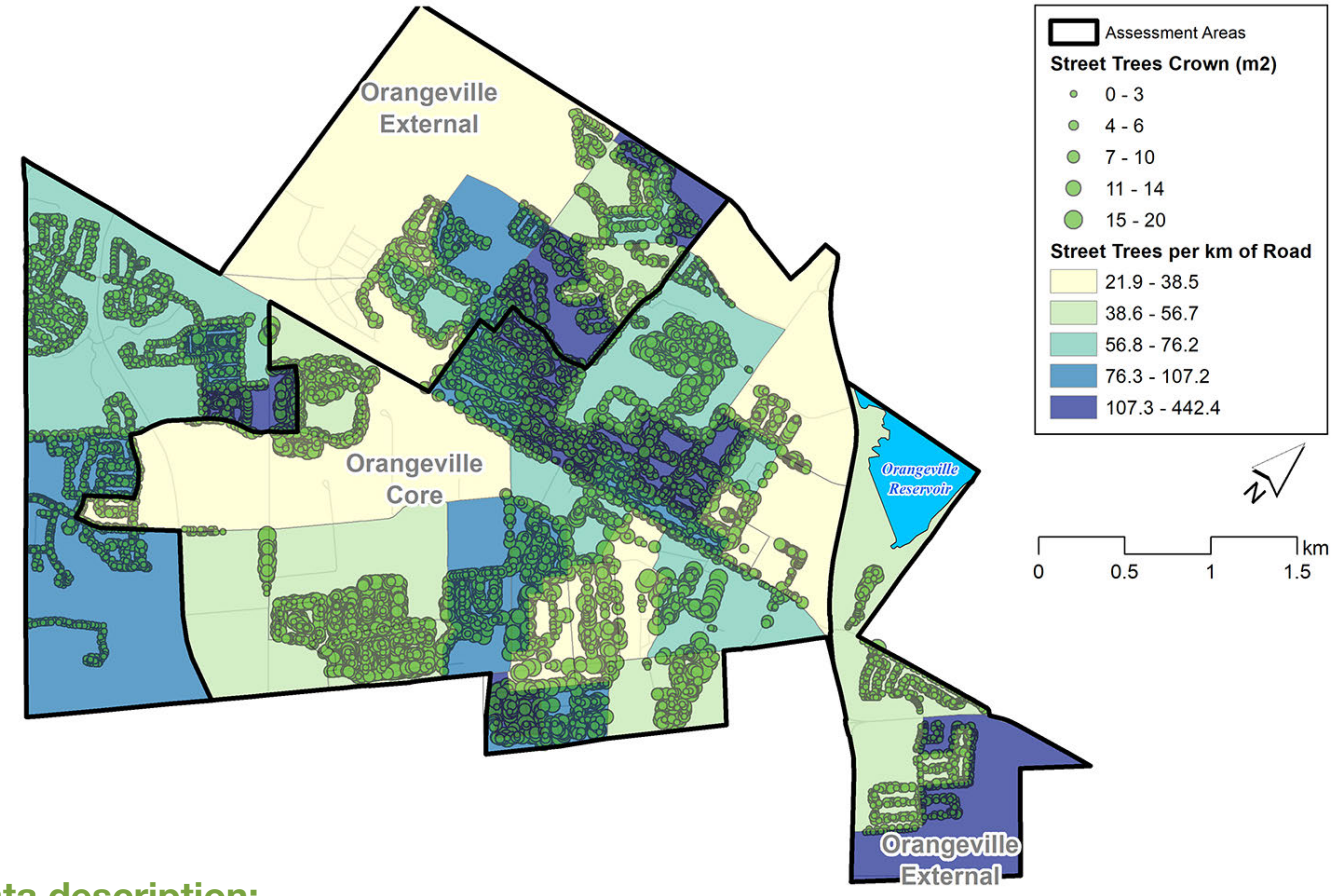
The percentage of parks, school yards, and designated greenspace (trails excluded) within the assessment area was calculated by the number of hectares of such greenspace in a Dissemination Area (DA) divided by the overall area of the DA.

What it tells us:

The overall percentage of greenspace area in Orangeville was 29%. Measures of greenspace were highest in the External area at 40% of total area compared to only 17% of total area in the Core.

Making connections:

The percentage of greenspace was lower in high dwelling density areas likely due to competing interests for land and larger population density, while measures were higher in the less densely populated peripheral areas where land may be more readily available. The percentage of greenspace correlated with indicators measuring dwellings within 800m of a park, as well as with the trail networks.



Data description:

Sources: Town of Orangeville, Statistics Canada, Wellington-Dufferin-Guelph Public Health, Ontario Ministry of Natural Resources and Forestry Roadnet-Element.

The indicator outlined the number of street trees owned and maintained by the Town of Orangeville per km of road.

What it tells us:

The average number of street trees per km of road in Orangeville was 65 trees/km, with higher measures in the External (72 trees/km road) compared to the Core area (59 trees/km of road). However, street trees located in the Core area had a larger crown size, averaging 7.62m^2, a total crown canopy of 30,633m^2, as well as a taller average tree height of 7.62m compared to the External area. External area trees had an average crown of 3.91m^2, a total crown canopy of 14,380m^2, and an average tree height of 6.89m.

Making connections:

While the External area had more street trees per km of road, the Core area had more tree crown canopy. This is indicative of more mature trees in the Core area averaging 35 years old, compared to the External area with trees averaging 17 years old. The maturation of existing trees will offer both environmental and public health benefits to the community, while also providing a neighbourhood feature that 78% of all Orangeville residents identified as important in the NDS.

Food Systems

Vision

A built environment that can support access to, and availability of, healthy foods for all.[1]

Food Systems

Designing communities and neighbourhoods that allow for all residents to have equal opportunity to access affordable, safe, nutritious, and culturally appropriate foods, reduces health inequities and supports positive health and well-being of the whole population.[1] Protection of agricultural lands and supporting community food programs, farmer's markets, and community gardens can contribute to food security and the accessibility of healthy foods.

Furthermore, the connection to healthy food retail outlets by use of pathways and trails increases the accessibility to food sources for all residents while also encouraging active transportation.

Access to Healthy Food Options

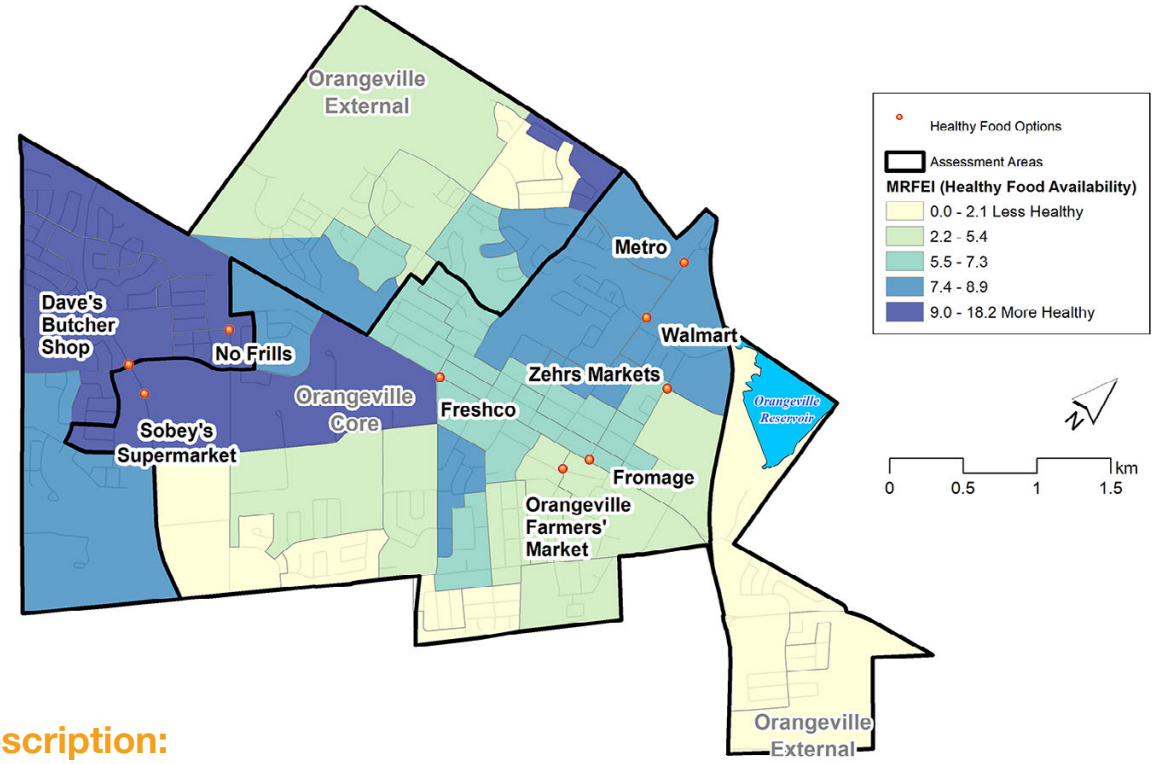
The Modified Retail Food Environment Index (mRFEI) is commonly used to measure community access to food sources. Specifically, it identifies access to healthy food options and areas that may have an overabundance of less healthy food options.[2]

Food sources are classified as healthy or less healthy according to a definition from the US Centers for Disease Control (CDC) and limits healthy sources to supermarkets, fruit stands, farmers markets, and butchers/seafood.[2]

The healthy food outlets are then calculated into a proportion of all food sources to result in a score between 0-100. Higher scores indicate a greater prevalence of healthy food options in the area and a score of 0 indicates that there are no healthy food sources available.

Key Findings:

- The External assessment area of Orangeville had more healthy food outlets in relation to all food sources compared to the Core area.



Data description:

Sources: Wellington-Dufferin-Guelph Public Health, Statistics Canada.

The mRFEI was calculated by placing one kilometer buffers around centre points of Dissemination Blocks (DB), which are smaller and fully contained by a Dissemination Area (DA). The buffers were then used to identify all food sources that are available to residents within a DA.

What it tells us:

The average mRFEI score for the Town of Orangeville was 6.3. Specifically, the External area was slightly higher with an average mRFEI score of 7.3 compared to the Core area at 5.5. The External area to the east of Highway 10 had the least amount of healthy food options available.

Making connections:

Some areas that appeared to have lower mRFEI scores but were actually in close proximity to healthy food options was likely the result of a grocery store being surrounded by fast food outlets, variety stores, or restaurants, which reduced the mRFEI. The overall percentage of dwellings located within 800m of a supermarket was 41% for Core residents and only 20% for External residents. However, the NDS found that 63% of Core residents and 60% of External residents felt they could actively travel to a grocery store. Further exploration may be necessary to fully understand the accessibility of healthy food for residents of Orangeville.

Considerations:

Areas that contain few to no food sources altogether can influence mRFEI scores to appear higher or lower than reality. Furthermore, since the mRFEI is calculated for specific locations at the DA level, caution should be used upscaling the results to the assessment area level.

Recommendations

1. **Share findings from the Baseline Indicators Project with the Town of Orangeville and County of Dufferin**
   Sharing the key findings and final report with Orangeville Council, Dufferin County Council, as well as Chief Administrative Officers, can help inform local decision makers of the status of local healthy community design and strengthen efforts towards improving aspects of healthy community design. WDGPH can support this information sharing activity by producing knowledge translation materials in consultation with Town of Orangeville.

2. **Use baseline indicators for related community projects**

   The collection of healthy community design baseline indicator data is unique. The applicability and transferability of this data to existing and future community planning efforts such as the Sustainable Neighbourhood Action Plan (SNAP) would be beneficial for evaluating sustainability actions and strategies. WDGPH can communicate with the Manager of Economic Development and Culture to determine usability of data for the SNAP.

3. **Use the findings to support policy planning**
   Application of data from the Baseline Indicators report should be used by committees and stakeholders to support current advocacy efforts, funding requests, or update to related documents such as the Strategic Plan, Parks and Recreation Trails Master Plan, Town of Orangeville Parks Master Plan, Official Plan Review, etc.

4. **Share key findings with public**
   The report should be made available for public review on WDGPH and Town of Orangeville websites. It is recommended that WDGPH work with the Town of Orangeville communications department to explore ways of sharing key findings and educational information through social media and/or community events, as appropriate.

5. **Partner on planning**
   WDGPH is currently on circulation lists for review of development applications within the Town of Orangeville. Expansion of this partnership to include WDGPH in reviews of other policy documents and plans (e.g. transportation, parks and recreation, etc.), would allow Public Health to highlight areas for consideration that align with best practices and the healthy community design baseline indicators in Orangeville.

6. **Prioritize active transportation**
   Further enhancement to neighbourhood connectivity and active transportation networks throughout Orangeville by way of seamlessly connected sidewalks, walkways, trails, cycling paths, and accessibility to transit, is recommended. Connecting such networks to destinations of importance to residents, will promote safe, active transportation options and encourage residents to travel actively to common locations.

7. **Explore increasing access to supermarkets and healthy food**
   The report identified a lack of nearby grocery stores for residents in Orangeville. It is recommended that this information be used in discussions with council and economic development officers to demonstrate the need for more grocery stores in the underserviced areas.

References

1. BC Centre for Disease Control. Healthy Built Environment Linkages Toolkit: making the links between design, planning and health, Version 2.0. Vancouver, B.C. Provincial Health Services Authority, Population and Public Health; 2018.
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Supplemental Resources

- *Orangeville Neighbourhood Design Survey: Appendix*
- *Physical-form Indicators Maps: Data Methodology*