

APPENDIX E

Needs Assessment

Active Transportation Needs Assessment

Technical Background

This appendix provides the technical background supporting the findings presented in Section 3 of the report.

Developed Rural Core

The needs assessment in these areas are focused on safely and comfortably connecting people to key destinations within their community.

Walksheds

The convenience and simplicity of walking makes it a practical way to get around for those who live in these more densely populated areas in the County. For most people, 800m (about a 10 minute walk) is a reasonable distance to access local destinations¹. This means that the pedestrian network within 800m of key destinations should allow for safe, comfortable and direct walking trips.

“Walksheds” are a good measure of the walking network around a destination. A walkshed considers the available transportation network, typically sidewalks, pathways, bike routes and shared streets. The walkshed method differs from a simple 800m radius around a destination because most walking routes are rarely in single straight line. The walkshed definition helps to focus attention on walking networks and infrastructure and can also help identify gaps in the network.

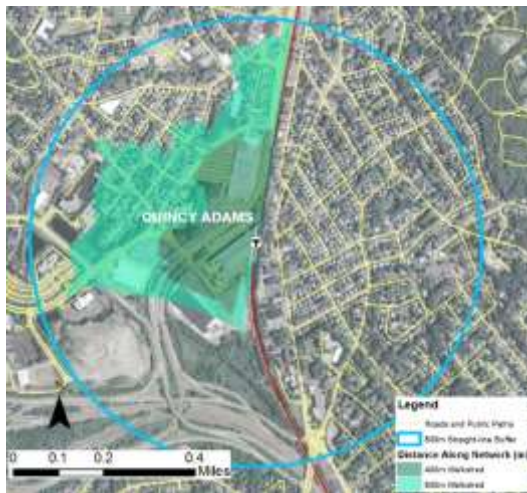
In a well-connected grid street system with sidewalks (or local streets without sidewalks that are comfortable for pedestrians), the walkshed is a diamond shape. **Figure 1** shows an example of a well-connected walking network in Boston. Conversely, **Figure 2** illustrates a poorly connected walking network in the same city, where much of the area within the 800m straight line distance is a much longer walk than 800m and where there walking network is lacking or cut off, either by commuter rail right of way and highway on and off ramps.

¹ National Highway Traffic Safety Administration (NHTSA), 2012 National Survey of Bicyclist and Pedestrian Attitudes and Behaviors - Volume 2: Findings Report.
<https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/811841b.pdf>

Figure 1. Example of a walkshed in well-connected network. Source: MBTA Data Blog (2016)



Figure 2. Example of a walkshed in poorly-connected network. Source: MBTA Data Blog (2016)



Walksheds for 400m and 800m have been developed around schools, retail areas and significant community and recreation centres to identify deficiencies in the existing network and to focus future improvement efforts to maximize the value of investment in walking facilities. Although no walkshed analysis was conducted for smaller neighbourhood parks and tot-lots, there should be priority placed on the 400m walksheds around these facilities as well, with a particular emphasis on safety.

COMMERCIAL/RETAIL AND COMMUNITY FACILITIES

Commercial/retail land uses in the context of those in Langdon and Bragg Creek are well-suited for access by active modes. Unlike major regional centres such as Cross Iron Mills, most retail businesses in the County cater to convenience needs and don't involve the need to carry large items. Community centres include significant recreation facilities within hamlets and suburban areas, such as the Bragg Creek Community Centre, sports fields and field house in Langdon, or the recreation centres in Indus and Springbank. The nature of activities associated with these locations attract a wide range of patrons, including those that are dependent on walking or cycling as their primary or only method of travel.

SCHOOLS

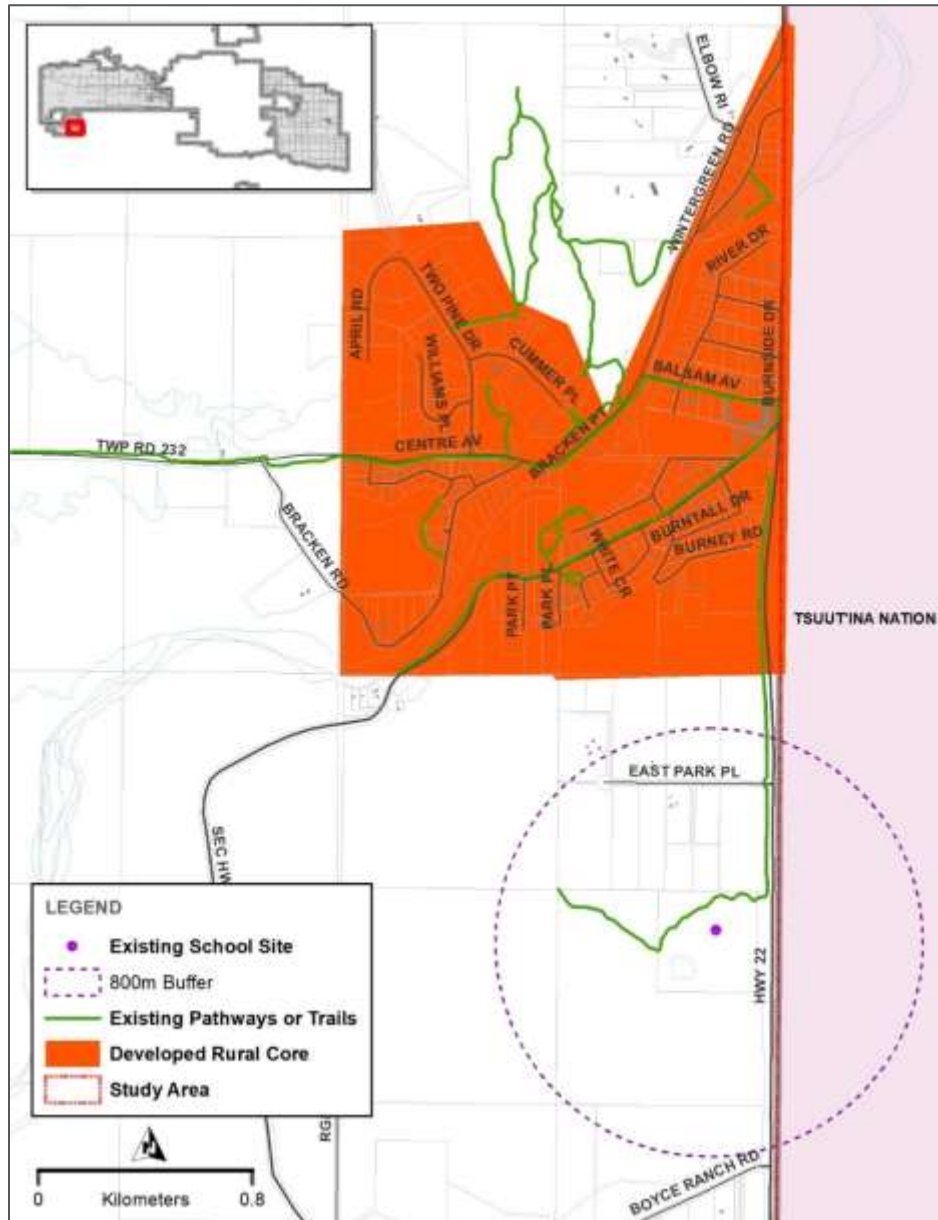
Safe access to schools is a priority within all communities. High traffic volumes around schools along with a lack of safe walking and cycling facilities are a concern for many parents, teachers, and school administrators and result in many children being driven to school rather than walking. This in turn adds to the volume of traffic around schools. Safe walking and cycling facilities around schools are an important component of encouraging active modes and reducing the amount of vehicle traffic around schools.

Additionally, students in junior high and high schools seek a greater level of independence than elementary students and often don't want to be reliant on parents and other adults for travel. This group depends on walking and cycling as their only forms of truly independent travel. For junior high and high schools, safety is a major consideration, recognizing that direct and comfortable routes will help to promote safe behaviour for this age group. Around elementary schools, with a younger demographic that may not have the confidence, road knowledge or skills should focus on safety for all ages and abilities.

Bragg Creek

Bragg Creek includes a residential area, elementary school and commercial centre. Banded Peak School is located on Highway 22, approximately 1.8km south of the core of the hamlet. The area around the school is shown on **Figure 3**. Due to the school's location, there is almost no development within an 800m walking distance of the school. There is an existing aggregate pathway that connects the town centre to the school, but it is not a year-round connection.

Figure 3. Sarah Thompson School near Bragg Creek



Only a small portion of the hamlet is within a 2km cycling distance to the school and cycling on highway 22 on the gravel pathway are neglected for the connection. Given that this is an elementary school, areas beyond 2km are outside the practical cycling distance for most students. Improved active transportation facilities will not have significant benefit for school access.

The Bragg Creek Community Centre is located on the south side of White Avenue (Highway 758) near the intersection with Highway 22. It includes a gymnasium, several meeting rooms and other rooms used for various purposes. The centre is used to host a variety of programs and special events. The Bragg Creek Snowbirds Seniors Fellowship Centre is located on Balsam Avenue. The Seniors Centre has been identified as a significant facility with regard to

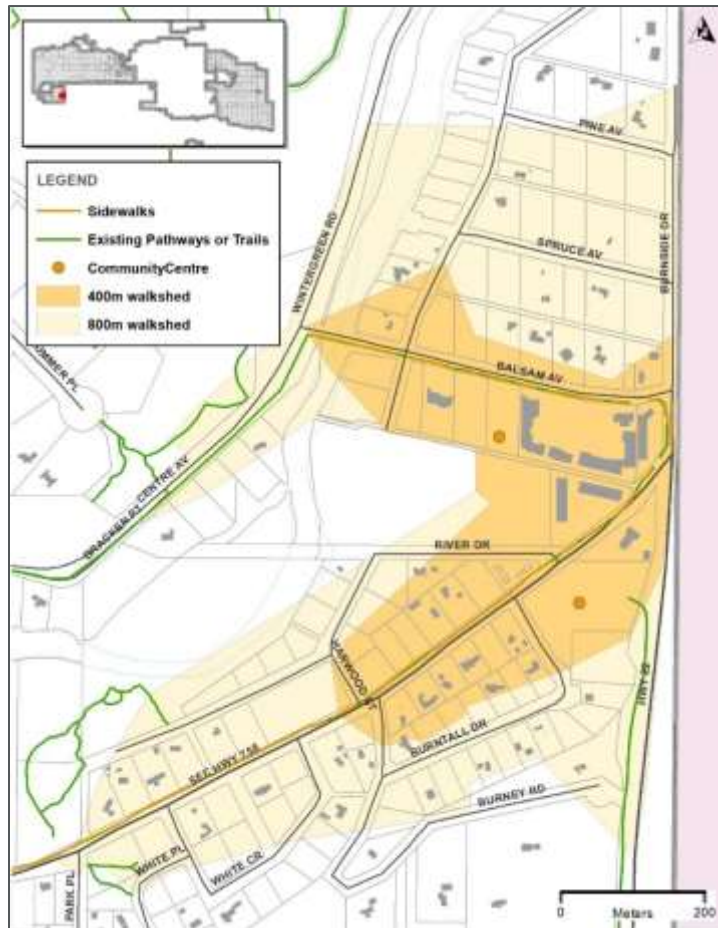
active transportation. Older seniors may have a high reliance on walking, and specifically high quality walking facilities, while more active seniors may be interested in walking and cycling to their destinations for fitness.

Figure 4 shows the 400m and 800m walksheds for these facilities. The existing multi-use pathway provides good connectivity for much of the populated area of the hamlet within 800m. The local streets noted as walkable, however, with the exception of the multi-use pathways on White Avenue and Balsam Avenue, there are no sidewalks and many of the streets are gravel. There are no pedestrian facilities on Highway 22. Given the high speeds and volumes, it is not considered part of the walkable network and does not provide access to much of the community.



Pathways between the retail centres enhance the connectivity in the area.

Figure 4. Bragg Creek Community Centres and Retail Centres with 400m and 800m Walksheds

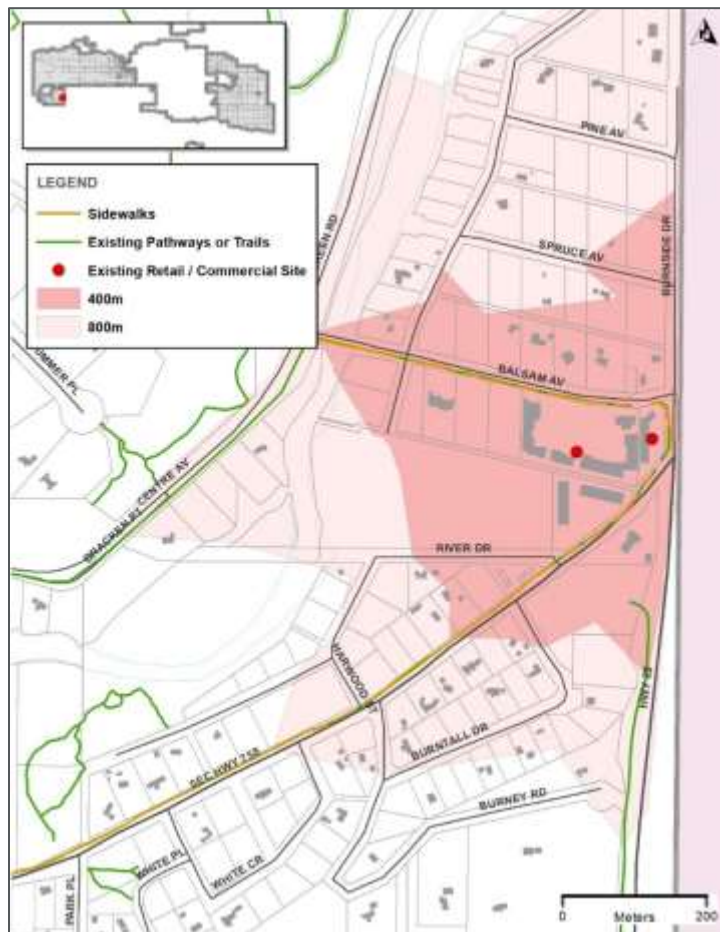


There is a distinct gap in the walking coverage immediately to the west of the Snowbirds Seniors Fellowship Centre. This lack of connectivity is not a significant concern at this time as the level of development on that parcel is low. If the owner intends to develop in the future, active transportation connections between the property and the existing network and directly to the retail centre to the east should be provided.

There is a grouping of commercial/retail businesses at the junction of Highway 22 / White Avenue / Burnside Drive, with frontage onto White Avenue, Burnside Drive and Balsam Avenue. The various properties are well connected through parking lots and short pathways between them.

Figure 5 shows the 400m and 800m walksheds for the retail/commercial centre of Bragg Creek.

Figure 5. Bragg Creek Retail with 400m and 800m walksheds



The 2km cycling routes around the retail/commercial and community centres follow White Avenue (Highway 758 to the southwest). The multi-use pathway continues in various forms for approximately 1.7km, providing a comfortable cycling route between the hamlet and Bragg Creek Provincial Park. Beyond the entrance to the park, there are no paved shoulders on the highway.

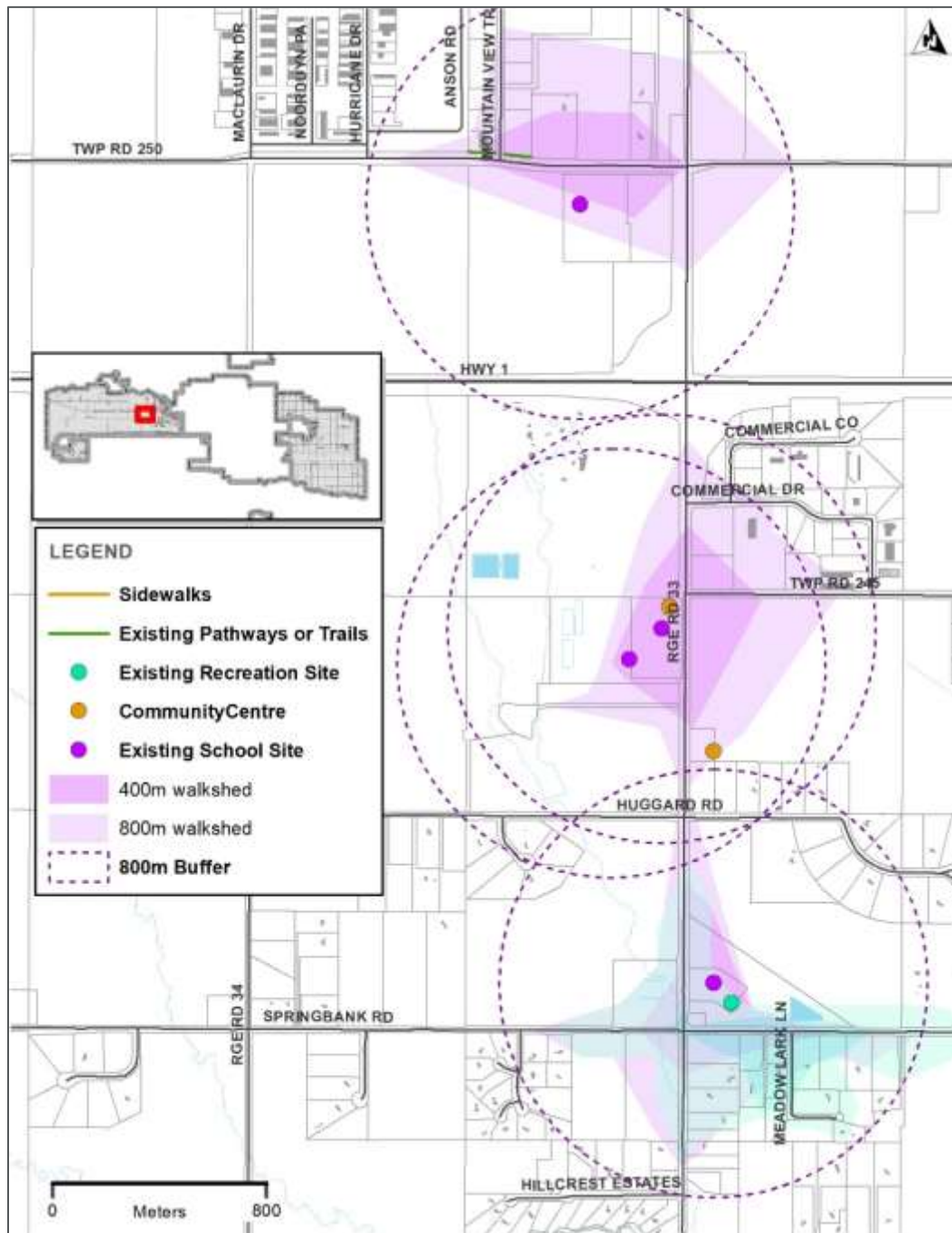
To the west, the multi-use pathway on Balsam Avenue continues west and crosses the Elbow River to Wintergreen Road / Centre Avenue. Balsam Avenue is the only crossing of the Elbow River in Bragg Creek. The residences along Bracken Road and Echlin Drive are generally within the 2km cycling distance of the centre of Bragg Creek. There are on Centre Avenue, but are narrow; in the order of 1.0m. The West Bragg Creek Trail parallels Centre Avenue / West Bragg Creek Road and Range Road 54. It is a gravel trail constructed in 2017. There are no shoulders on Wintergreen Road.

Springbank

There are several community destinations on Range Road 33, north of Springbank Road, including a recreation centre (Springbank Park) and high school at the intersection of Springbank Road and Range Road 33. Springbank Middle School and Elbow Valley Elementary School are on the west side of Range Road 33, approximately 1.4km north of Springbank Road. There is also a collection of low intensity industrial uses as well as Calaway Park near the junction with Highway 1. The Edge School, a specialty school for high performance athletes is located north of Highway 1 near the corner of Township Road 250 and Range Road 33.

Figure 6 shows the 400m and 800m walksheds for the schools and recreation centre. As the figures shows, the walksheds generally limited to Range Road 33 and Springbank Road. The posted speeds, traffic volumes and lack of pedestrian facilities render Range Road 33, Springbank Road and Township Road 250 as poor walking environments.

Figure 6: Figure 8: 400m and 800m Walksheds, Springbank Road and Range Road 33 Schools and Recreation Centre



A school zone speed of 30 km/h exists on Springbank Road in front of the high school and on the approach to Range Road 33. However, aside from the signage, there are no other cues to slow drivers along this straight, flat section of roadway. There are also no pedestrian crossings of Springbank Road. Similarly, the school zone speed limit is 30 km/h in the vicinity of the middle and elementary schools.

Harmony

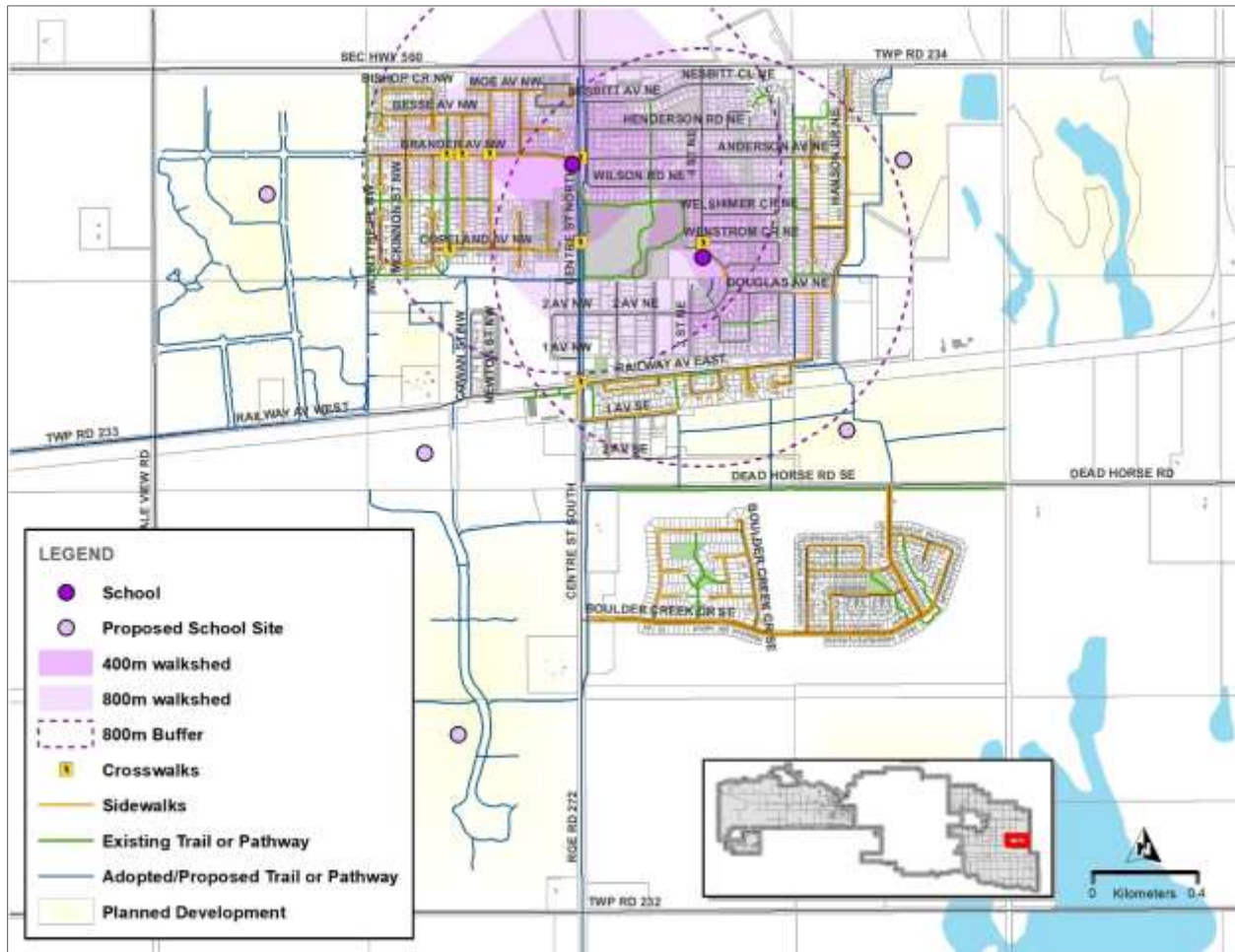
Harmony is a significant future neighbourhood located east and north of the Springbank Airport that is currently being developed. Due to the scale of this development, it is included in the discussion of developed urban core areas. Strong connectivity for active modes is inherent in the Harmony plans. As a principle, the development seeks to have 75% of residential units within a 400m walk of the edge of the village core, and 90% within 800m. This will be achieved through a highly connected trail system.

Langdon

Langdon is Rocky View County's largest hamlet. The hamlet covers 4.4 km² and has a variety of land uses that provide day-to-day destinations. When compared to other developed areas in the County, Langdon is a relatively dense. The form and function is similar to many suburban neighbourhoods in Calgary, Chestermere or Airdrie. Langdon is one of the fastest growing communities in the greater Calgary region, and due to the hamlet's size, scale, demographics, and layout, there is potential to enhance and encourage active mode travel.

Currently, there are two schools in Langdon: an elementary and elementary/middle school. The 400m and 800m walksheds for these schools are shown on **Figure 7**. The figure indicates that both schools are well-connected for walking. A high proportion of the area within these walksheds is residential and therefore represents potential walk-to-school trips. Although the walkshed for the Sarah Thompson Elementary School indicates strong connectivity, the routes rely on students sharing the roadway for most of the trip. As of 2018, the County has funding to enhance active transportation connections along 4 Street NE, north of the school. As for Langdon School, there are sidewalks (one at least one side of the street) and pathways within the 400m and 800m walksheds.

Figure 7: 400m and 800m Walksheds, Langdon School and Sarah Thompson Elementary School

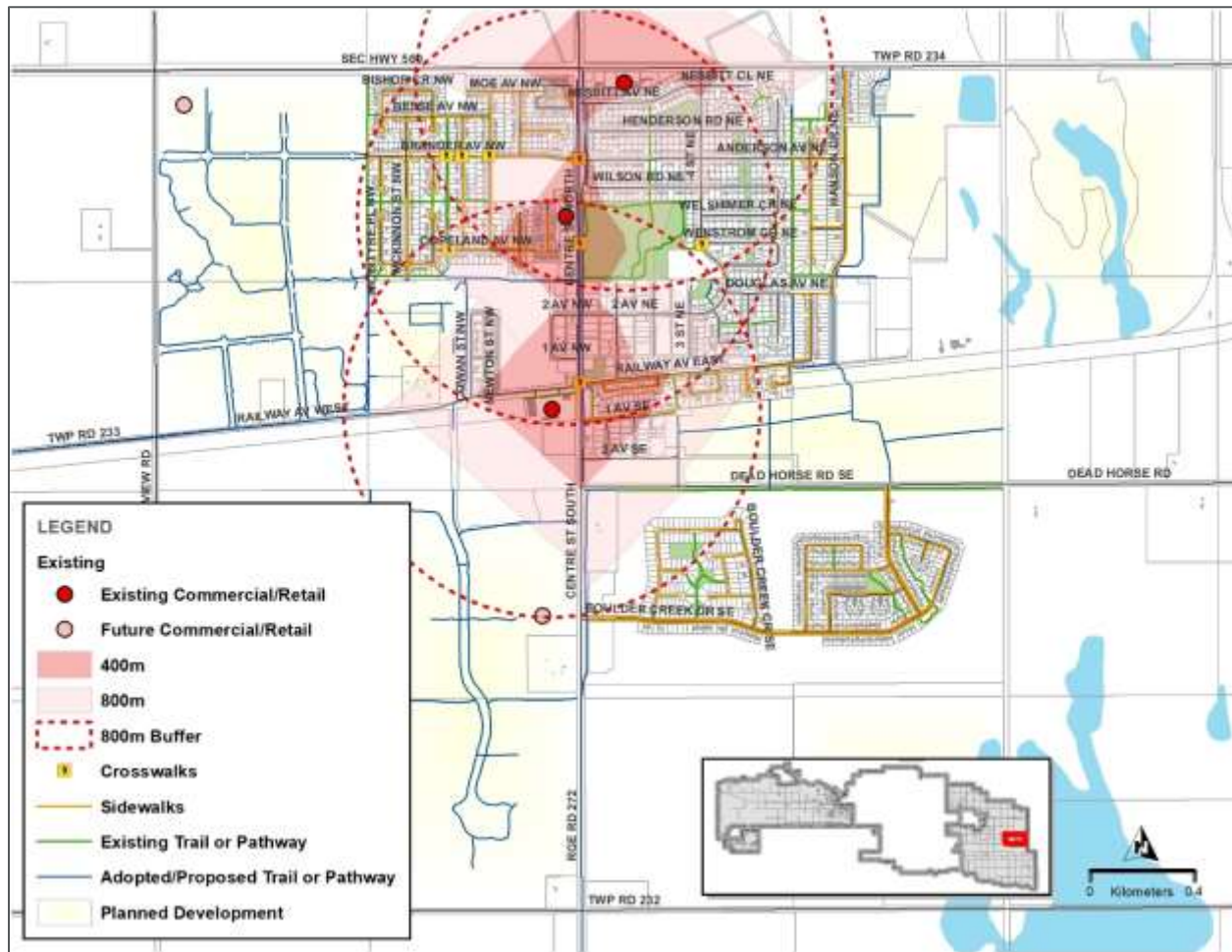


The straight-line distance between Sarah Thompson Elementary School and Boulder Creek is approximately 1km for most of the community, but over 2km cycling distance and relies on cycling on Centre Avenue / Highway 797. The Langdon School is approximately 2.5km cycling distance from Boulder Creek, which is reasonable for older middle school students, but again, the routes rely on cycling on Centre Street.

There are three primary retail areas in Langdon:

- Southeast corner of Range Road 234 (Highway 560)/Centre Street;
- Centre Avenue south of Langdon School; and
- Southwest corner of Centre Street/Railway Avenue.

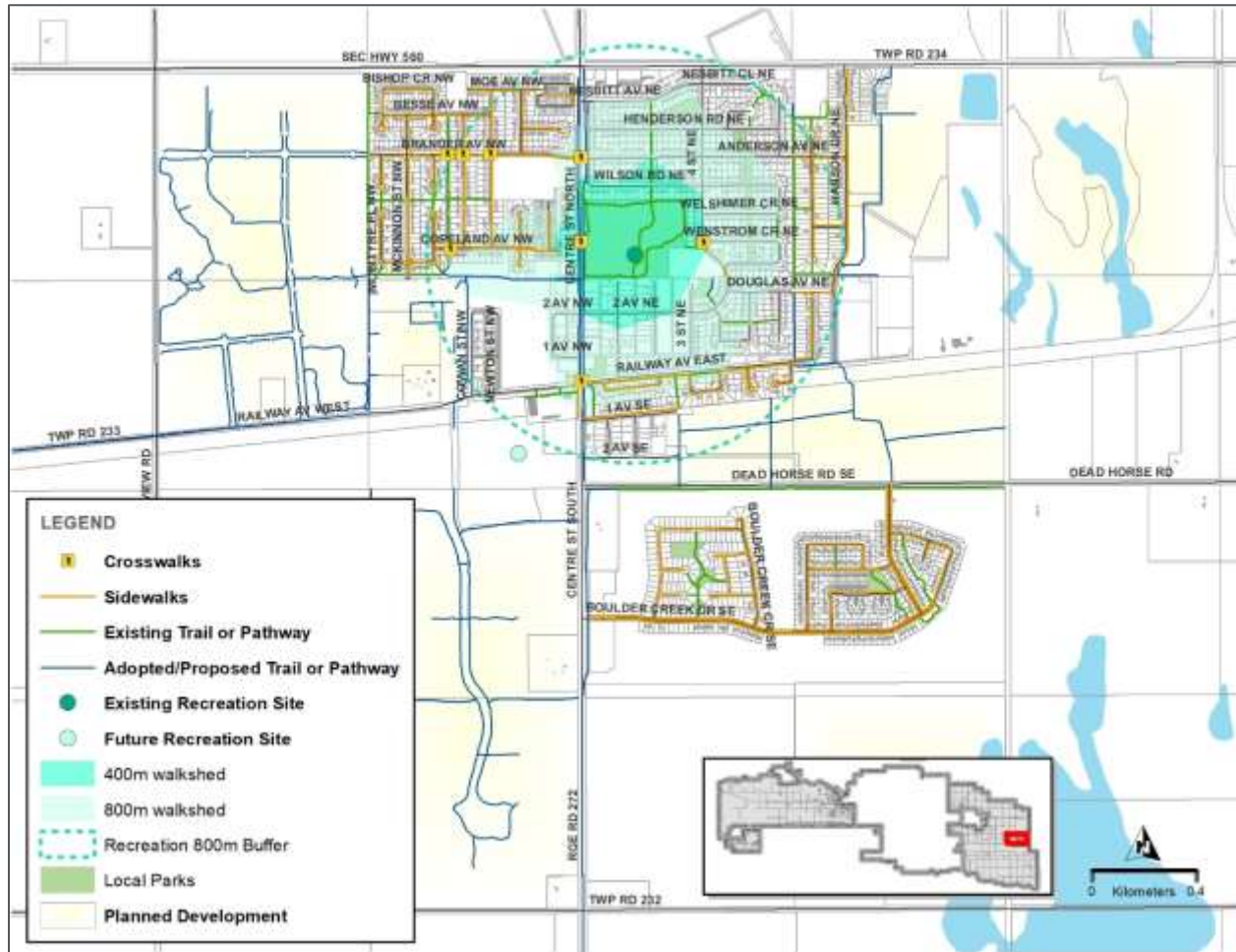
Figure 8: 400m and 800m Walksheds, Langdon Retail



The walksheds for these three areas are shown in **Figure 8**. The walksheds show reasonably strong pedestrian connectivity, but the lack of pedestrian facilities along Centre Street makes pedestrian access to them uncomfortable. The retail centre fronting Range Road 234 has no pedestrian access and pedestrians must walk on the shoulder of Centre Street or Range Road 234 to access the businesses. The retail businesses on Centre Street south of Langdon School are better connected, particularly within the area of Langdon on the west side of Centre Street. The area on Railway Avenue has sidewalks along the property frontage, and a crosswalk on Centre Street at Railway Avenue, but little connectivity beyond that point.

There are parks and recreation facilities of varying scales throughout Langdon, including local parks and tot lots, and major recreation and playfield sites, like Langdon Park. The 400m and 800m walksheds for the park are shown on **Figure 9**. Given the central location, and existing pathway network, the walking connectivity is relatively good, with minor gaps. Along the west side of Langdon Park, along Centre Street, there is a multi-use pathway providing connection to the park.

Figure 9: 400m and 800m Walksheds, Langdon Park

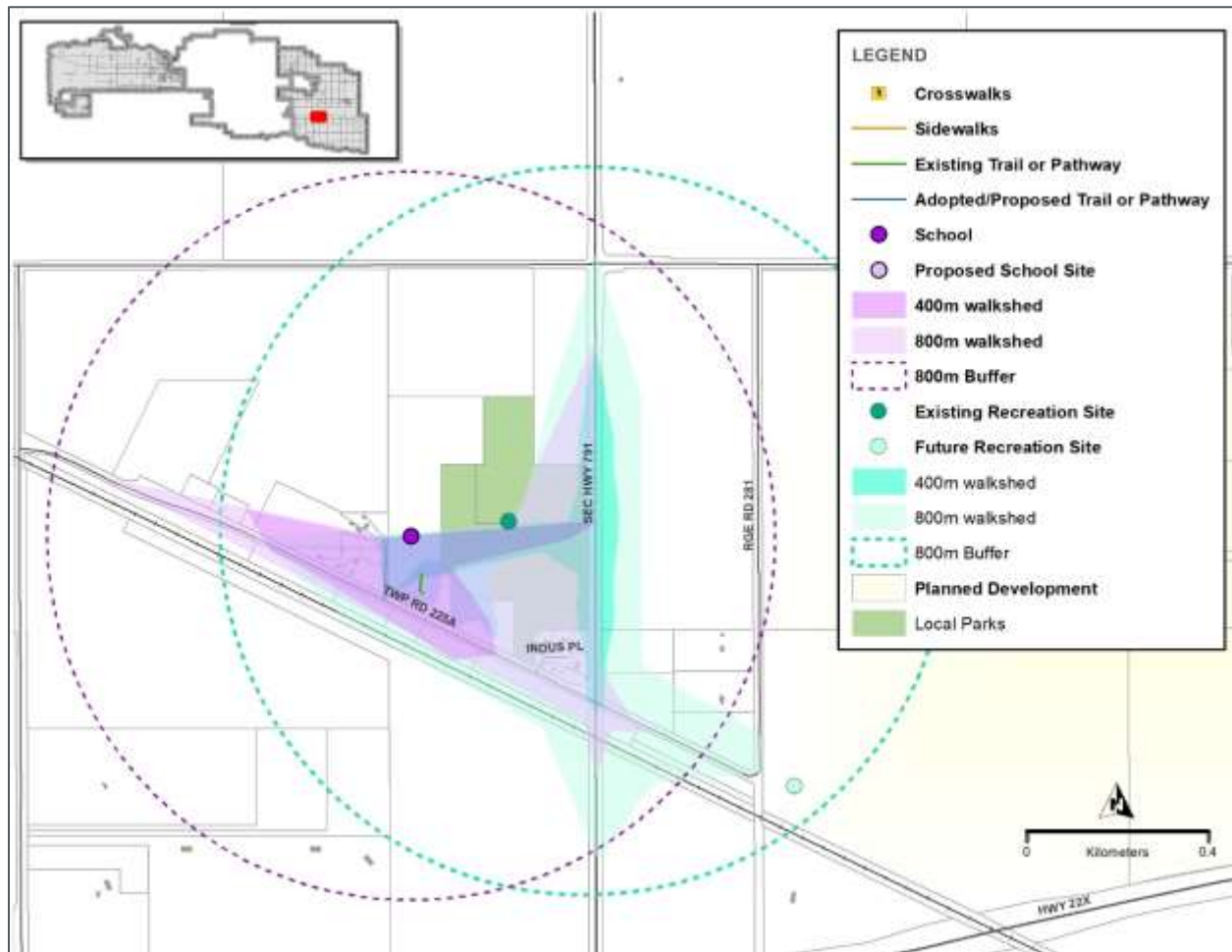


Indus

Indus is a small community near the southern edge of the County that includes an elementary school, recreation centre and a few residences. The recreation centre includes a rink, function hall, meeting room, riding arena and softball diamonds. Although next to each other, there is no formal walking connection between the school and recreation centre. Figure X shows the 400m and 800m walksheds around the school and recreation centre. The small size of the community and the lack of road network means the walksheds cover a small area. However, most residences are within or very close to being within the 800m walkshed of the school. With no formal connection between the recreation centre and school, most residences are outside of 800m walking distance from the recreation centre, but it is possible to walk across the school field to significantly shorten the trip.

The distance between the recreation centre and Langdon is approximately 13km, which is beyond the distance that would be considered convenient for day-to-day trips, but given the nature of the recreation centre, there may be some demand for cycling trips between Langdon and Indus.

Figure 10: 400m and 800m Walksheds, Indus School and Indus Recreation Centre



Conrich

The hamlet of Conrich is very small, with no notable community facilities that would be destinations for those outside the hamlet. The only school, the Khalsa School Calgary, is a specialty school that draws students primarily from the northeast area of Calgary.

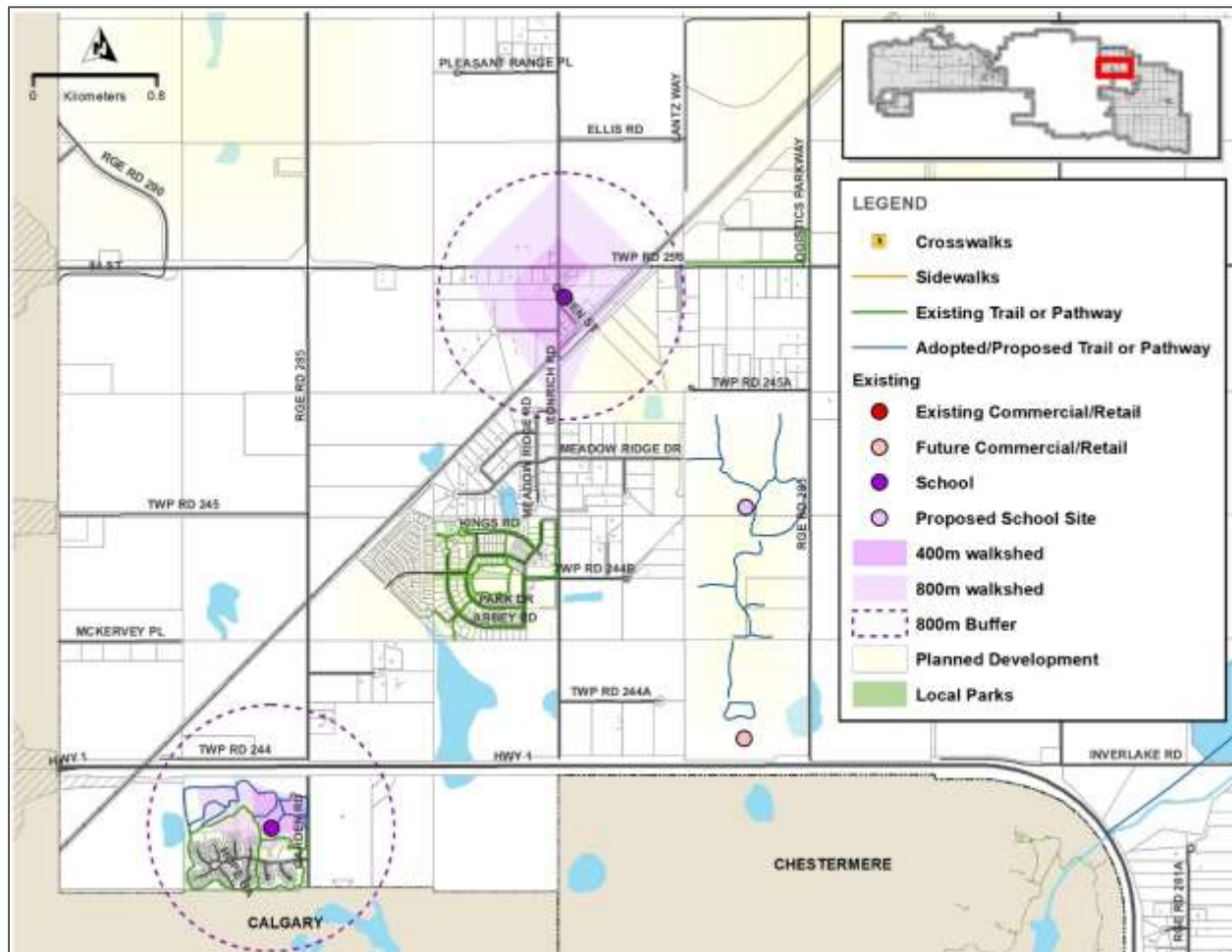
The Cambridge Park neighbourhood, just south of the hamlet is a suburban subdivision with multi-use pathways throughout.

Prince of Peace school is located on the south side of Highway 1 with good connectivity to the community surrounding it.

The Conrich Area Structure Plan includes significant industrial, commercial and residential development, including expansion of the hamlet. Although there is little activity today that will generate active transportation demand, future growth in Conrich and the neighbouring communities will generate future demand.

Figure 11 shows the existing areas of development and active transportation facilities.

Figure 11: Current Land Use and Active Transportation Connections, Conrich



Other Areas

There are other existing and planned neighbourhoods that are suburban in nature. In general, newer developments include pathways along major streets, but do not include sidewalks.