

# An Active Transportation Strategy for the South Corridor



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A Healthy, Safe, and Active East Hants:  
An Active Transportation Strategy for the South  
Corridor

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## Executive Summary

Active Transportation (AT) refers to all forms of human powered movement. The Municipality of East Hants requested an active transportation strategy from m-cue consulting. Team members devised three main objectives: to identify key stakeholders, to diversify and enhance existing AT options within the community, and to improve community connectivity. Through consultations and site analysis, among other methods, a conceptual AT network was created, with accompanying standards and specifications, policy amendments, and implementation recommendations.



## 1.0 Introduction

### 1.1 What is Active Transportation?

Active Transportation (AT) is a broad term, which refers to all forms of human powered or non-motorized transportation. AT includes walking and cycling, as well as other modes of transportation such as rollerblading and wheelchair use. AT is largely functional; that is, while recreation is a major motivator for increased AT usage, it is not the ultimate goal. Driving to a given trail to go for a walk is recreational activity, while walking to a workplace or to the grocery store is active transportation. AT, then, is movement from point A to point B; it is not just a recreational activity, but a utilitarian one, as well. Using AT to access recreational facilities or trails is another goal of an AT network. Ultimately, AT helps people move around their communities more healthily, easily, and safely.

Given the prevalence of the automobile, and the fact that approximately half of Canadian household daily trips are between 1 and 3 km, AT can be an alternative mode of transportation. AT, then, is a method of transportation that decreases our reliance on motorized forms of transportation. By choosing to walk, ride or roll to this destination we are choosing to not drive.

Municipalities can actively support safe and enjoyable AT within their neighbourhoods. AT promotes independence of mobility to all residents, which fosters healthier, and more sustainable communities. To be effective, AT planning needs to create complete networks that link users to destinations, and are inclusive of a range of other transportation options<sup>1</sup>. There are many benefits to active transportation. These can be summarized under five main categories:

- a Equity
- b Healthy, cohesive, and safe communities
- c Economic Development
- d Sustainability

These categories provide reasoning for an increased focus on AT in municipalities.

#### a. Equity

Currently throughout the Municipality of East Hants, (MEH) there is a single main transportation choice, which is the use of a motor-vehicle. As a result a number of residential stakeholders are excluded from being able to easily and autonomously move around their communities. Low income and legal driving age are considerable factors in this regard. Being too young to drive, youth are reliant on parents, guardians, or friends (etc.) to travel to a favoured destination. Low-income households may not have a sufficient income to own and maintain a car, which limits their mobility. AT provides a form of travel for those users who either cannot afford to own a vehicle, or who have limited or no access to an automobile. Beyond providing an alternative to driving for those with financial or age restrictions, AT also provides alternatives for individuals who would choose not to drive for

health reasons. AT is encouraged because it is accessible to everyone, at no cost, and with no age restrictions.

#### b. Healthy, cohesive and safe communities

Encouraging greater participation in active transportation is one of the best ways to increase physical activity in all demographics<sup>2</sup>. Currently Nova Scotian youth live largely sedentary lives and less than 20% will use AT to travel to school in good weather. An increase in physical activity can lead to an increase in health, a decrease in obesity rates, and an overall healthier, and happier population.

Furthermore, more people walking within the community promotes safety as there are more “eyes on the street”<sup>3</sup>. An increase in AT also facilitates more socially cohesive communities as residents have more opportunities to establish or strengthen relationships when walking, riding, or rolling.

A greater volume of AT use will create a safer environment for AT users in two ways:

- (a)** An increase in AT usage can elevate the status and visibility of AT users to motorists. This can lead to motorists reducing their speed and driving with more caution when sharing the road.
- (b)** An increase in AT usage, and the corresponding reduction in traffic congestion, will make using AT infrastructure safer. That is, by reducing the number of cars on the road through increased AT, AT becomes safer and more desirable for even more users.

#### c. Economic development

Increasing the amount of AT infrastructure in a municipality can result in enhanced economic circumstances for a number of reasons. Most importantly any reduction of vehicular use will result in a reduction of those costs associated with vehicles. These costs can be personal to residents (associated with car ownership, maintenance, and use)<sup>4</sup>, but can also occur on a municipal level in the form of road maintenance. In addition, rural municipalities have the unique challenge of having a small constituency, and limited tax base, spread over a large amount of land. The nature of development being dispersed, there are many kilometres of road that need to be maintained. Increased population growth adds to this pressure by expanding that tax base over an even greater area, and requiring even more road maintenance<sup>5</sup>. AT provides a healthy and inexpensive alternative to driving that can boost tourism, and increase community livability, making more residents prone to live and work there, and making more visitors want to stay, shop, and explore.

Reduced car traffic can also increase real estate values in residential areas



as well as commercial districts. Neighbourhoods with high quality trail connections have a competitive edge over those that are auto-oriented. Shops and services that are located along walkable, pedestrian friendly streets have a greater amount of pedestrian foot traffic; while drivers may travel to a specific destination and leave, pedestrians are more apt to make multiple stops during a trip, visit local shops, and make small or large purchases. In this way, using the car less could result in a more diversified economy within the community.

#### d. Sustainable communities

An AT network can enhance community resilience and the financial, social and environmental well-being of a place. Many of the financial and social aspects that have been mentioned apply here as well. This shift from the automobile being the dominant form of travel, to human-powered movement being an option, results in reduced pollution. A decreased reliance on vehicular travel also indicates a lessened reliance on fossil fuels, which will have a positive effect on the local and global environment.

Sensitive ecosystems within the local environment can be a location for new trail networks, avoiding significant damage through development options that specify “gentler” design standards (e.g., paving trails that are located in sensitive areas with ecologically friendly materials, that create permeable surfaces, such as wood chips or gravel, instead of using asphalt). Finally, making places more enjoyable for pedestrians and cyclists may involve types of landscaping that have a positive effect on the local ecology.

#### **AT: Shifting from a “car-centric culture” to a “human-centric culture”**

AT involves a range of transportation options, as well as a range of planning approaches. These approaches aim to prioritize pedestrians, in order to design communities that function better for them. The thinking is simple: all trips begin and end with walking<sup>6</sup>; by making walking possible for all demographics in a community (including the young and the old) we make more vibrant, enjoyable and safe public spaces in our communities<sup>7</sup>. Active transportation encourages new ways to consider connectivity; in this way, new and established developments do not have to be solely reliant on roads to bridge different land uses within a given community.

The MEH, like many other communities, has been designed to cater to cars and their users; its residential form is based on circular cul-de-sacs, with single-detached houses, all facing the street, and each with a separate driveway. This development form is made possible because vehicle usage cuts down on travel time. As a result, direct connections with local destinations are no longer deemed important. The current interest in AT

in planning outlines a shift in focus away from vehicular-oriented design and allows more diversity in choice including active transportation modes, transit and vehicular travel.

While planning can concentrate on encouraging greater AT use, it is equally important to understand and adopt the ideology that drives AT. If community members are encouraged to use AT, community walkways, informal paths, and sidewalks must be maintained year-round, and made safer for those wishing to use them. These small links facilitate more direct, safe or pleasant routes between residential areas, schools, workplaces and commercial centres; as such, pedestrian connections are just as important as roads.

Established areas with a development form that encourages vehicular use can be retrofitted to enable a choice between vehicular and active transportation modes, and to make both choices equally appealing. Municipal plans, priorities, and budgets need amendment to reflect the greater degree of infrastructure and maintenance required to foster AT and provide an increase in connectivity between communities.

## **1.2 M-Cue's Approach**

In order to reap the benefits of the opportunities for active transportation in the Municipality of East Hants, we have assessed the needs of community members and their current habits. We asked ourselves: why should residents use AT at all? And if they should, how can they? m-cue consulting feel that by fostering a significant increase in active transportation use, greater health and connectivity will result for residents and the community at large. In order to accomplish this we became curious about residents' habits. During youth and adult focus groups we asked about favoured destinations, modes of transportation, and the time and frequency with which they travel. Given the small sample size, we compounded this information with GIS data, a literature review of municipal documents, an inventory of social and recreational programs, and through consultation with community contacts.

That is to say, we aimed to first understand the existing community infrastructure, resources, and appetite for AT, and then to explore the most effective ways to encourage and support AT usage for future users. When we discovered areas that we felt presented an opportunity, we asked ourselves what components were missing in achieving a connected and comprehensive AT network.

Community connectivity surfaced as a crucial component, and refers not only to connectivity of physical terrain (sidewalks, trails, etc.) but also to connectivity between community members, officials, and organizations. This is in pursuit of a final goal of creating a "culture of

active transportation”, where residents feel motivated and able to use AT regularly and easily.

The objectives below are broad indicators of these goals; they inform the direction of the final product, a strategy for active transportation in the Municipality of East Hants.

To determine the needs of AT users, and identify a group of key stakeholders for AT infrastructure in Enfield, Elmsdale, & Lantz.

To identify where AT can be diversified and can enhance transportation options. This will be achieved by identifying existing resources and the gaps contained within and between those resources.

To increase community connectivity by facilitating an increase in AT within and between the three communities.

## 2.0 Background

### 2.1 Regional context

The communities of Enfield, Elmsdale, and Lantz are located North of the Shubenacadie River in the Municipality of East Hants, Nova Scotia. These rural NS communities are a development between the local highway Trunk 2, and the Highway 102, a provincially owned access controlled divided highway connecting its Halifax terminus with New Brunswick and the rest of Canada. Within the community, these two main thoroughfares act as a development spine where the majority of residential and commercial development currently occurs. This development pattern inspires the name, the 'South Corridor', often used when collectively describing the three communities. (See Map 1)

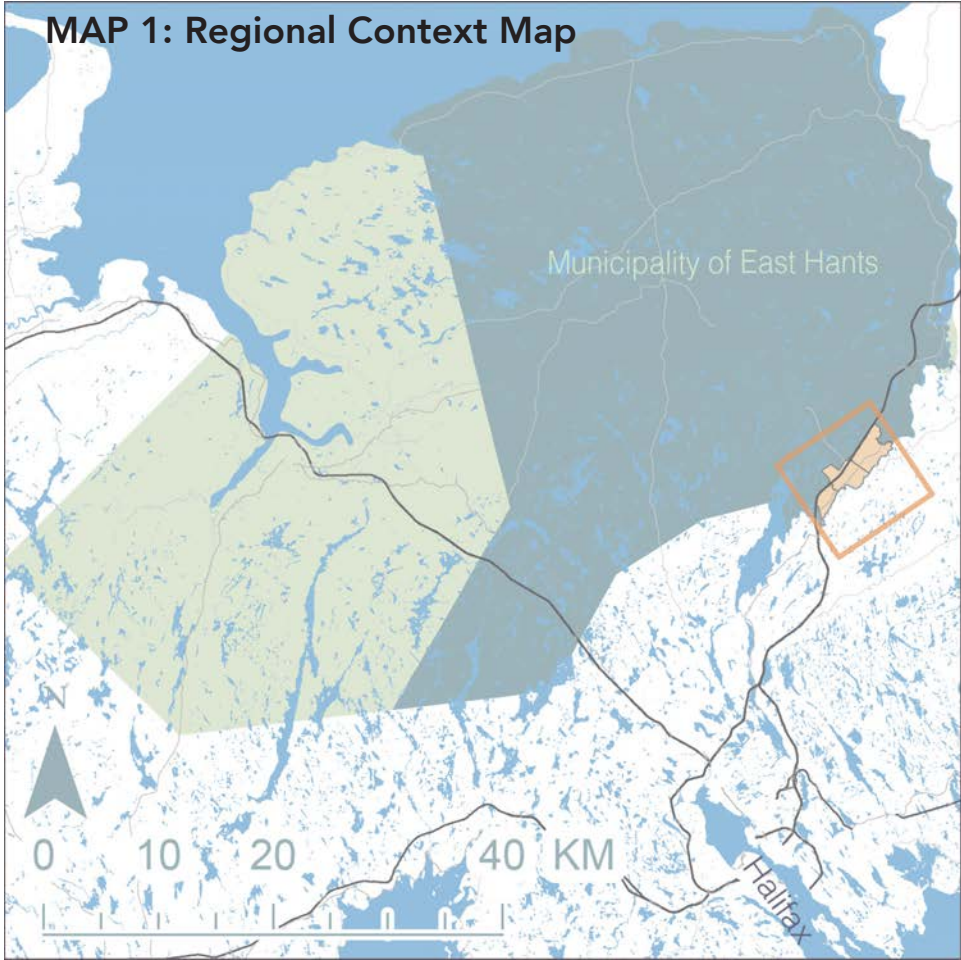
Employment destinations within the community are near the retail centres in Enfield and Elmsdale. Additionally, the Elmsdale Business Park, located at Exit 8 north of Highway 102, is a notable employment centre, while Shaw Bricks and several other industrial establishments occur at various locations along the Trunk 2. These employment centers serve as nodes, which are part of a complete AT network. Another employment centre is the Halifax Stanfield International Airport, located a short distance outside the Municipality in neighbouring Halifax Regional Municipality.

#### Climate

More so than automobile transportation, the use and enjoyment of AT is strongly linked to the weather. Nova Scotia is a North Atlantic climate which is generally mild, and is conducive to AT. For instance, there are, at minimum, 250 days of the year where the temperature is between zero and 30 degrees C for the majority of the day. Cold temperatures, strong winds and heavy precipitation can make AT more challenging at some points during each year<sup>8</sup>:

- o There are around 30 days where wind chill is below -20 degree;
- o There are a total of 75 days per year where there is significant precipitation (snow or rain); and
- o There are a total of 14 days where winds would be too strong to ride and walking would be unpleasant or unsafe.

The above figures will in many cases overlap, i.e. strong winds will occur with precipitation; as a result to numbers above do not form one cohesive number of days that are not conducive to AT. Rather, it gives a rough idea of the types of conditions that may pose a challenge for AT in the South Corridor. Unfavourable climate conditions should not be seen as deterrents but can be planned for. That is to say, if there is bad weather, better infrastructure and maintenance is required to ensure that AT is available year-round.



This development pattern inspires the name, the 'South Corridor', often used when collectively describing the three communities.

## Geography

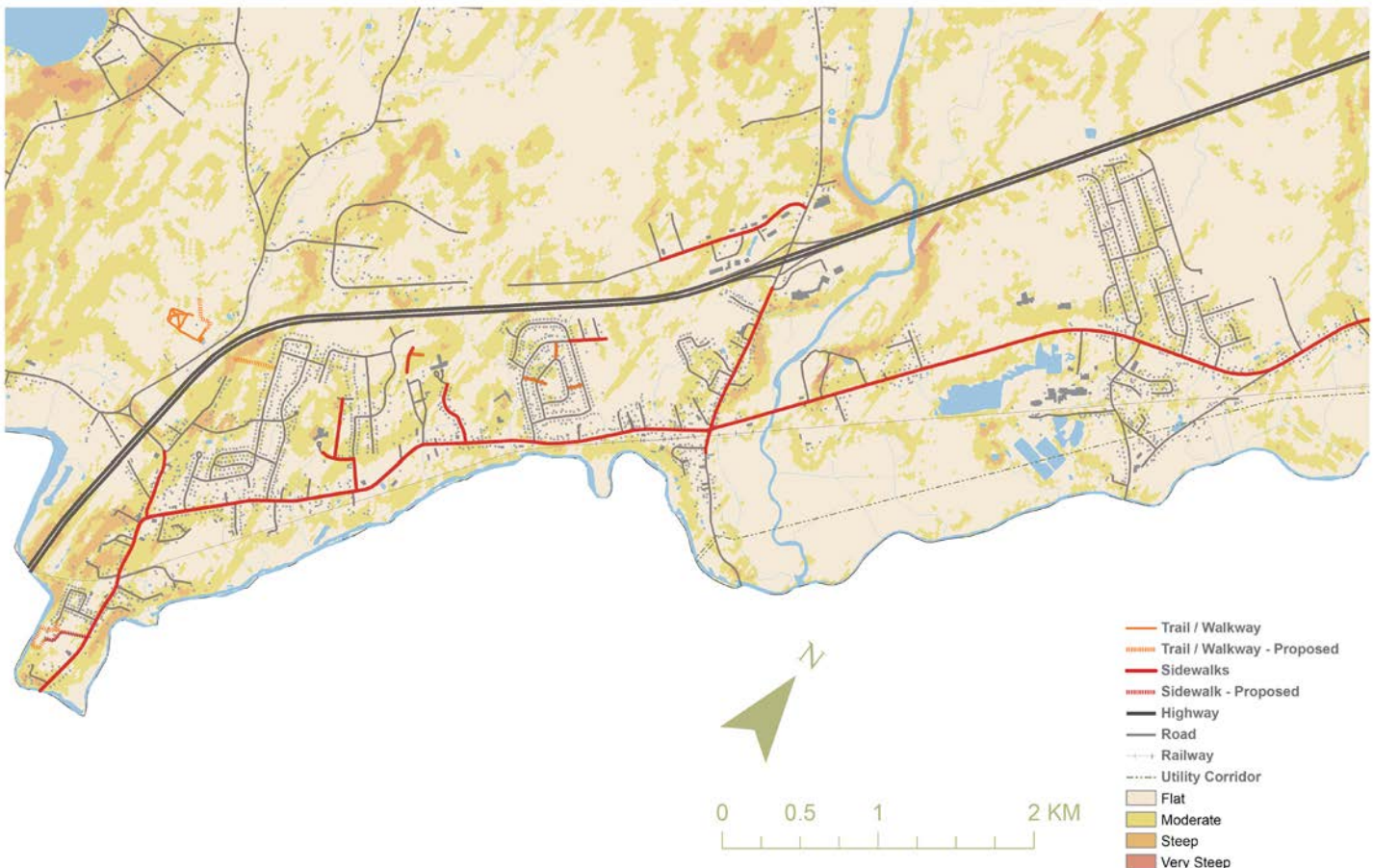
The three communities are situated in a river valley at the intersection of Shubenacadie and Nine Mile Rivers. As such, the relief is quite moderate with very few areas where slope would present an impediment to AT usage. (See Map 2)

## 2.2 Transportation and Land Use

### Land Use

The three communities are semi rural and largely residential; however significant mid-scale industrial activity also occurs interspersed within residential subdivisions and at various development nodes. The development form of these subdivisions includes cul-de-sacs that stem directly from the Trunk #2. These subdivisions have the density of a suburban residential area, particularly within the communities of Enfield and Elmsdale.

Retail in the South Corridor is characterized by large, medium, and small-scale development located throughout the community. Many of the small-



scale, independently owned establishments exist within the traditional village cores of Enfield and Elmsdale located at major intersections with the Trunk 2 and Old Enfield Road and Elmsdale Road, respectively. Commerce within the core of Lantz is limited to a small number of local businesses. Large-scale retail is primarily located within the Regional Commercial Centre in Elmsdale. A large portion of land is allocated to parking for patrons of the auto-oriented businesses in this area. Some decentralized small and medium-scaled auto-oriented commercial development occurs along the Trunk 2.

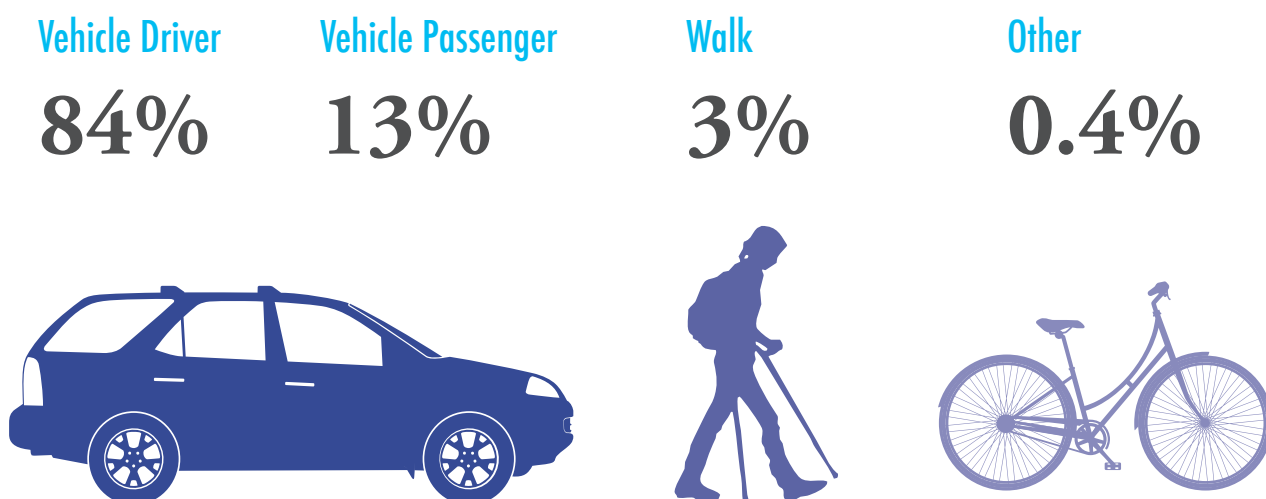
The local Municipal Building is located on the northern corner of the Elmsdale Business Park. This building houses administration as well as municipal services such as the local library. Several other community and recreational facilities occur throughout the three communities, such as the local fire hall in Enfield and the Sportsplex in Lantz. Public open space occurs scattered throughout the communities, largely within the residential areas.

Transportation Characteristics

Residents in these communities predominantly commute to work via private vehicle<sup>9</sup> (see Fig. 1). The use of other travel modes is much less than provincial norms. Cycling as a commuting choice is negligible in the local area and walking is very low at 3% of daily commutes.

The total distance between Enfield and Lantz is around 7 kilometres. The primary arterial, the Trunk 2, provides the main access to the three communities. Daily vehicle trips include commuters, commercial vehicles, and drivers making short trips to local destinations. A piecemeal network

FIGURE 1: Mode of Travel to Work



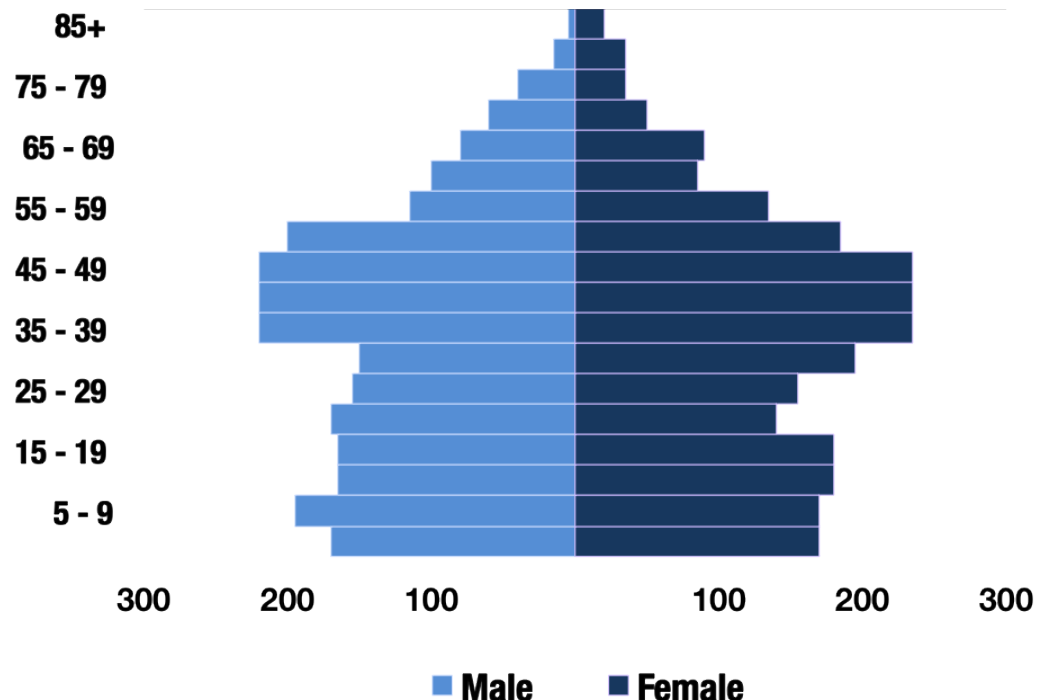
of sidewalks exists within the more recent residential developments with formal walkways sometimes linking subdivisions otherwise disconnected by the traditional road network. The Trunk 2 has a sidewalk along the whole distance between Enfield and Lantz. Pedestrian activity increased dramatically when the connection between the three communities was completed. In many cases, however, pedestrians compete with cars in areas with no traffic calming features, unsafe intersections, incomplete sidewalks, and high speeds. This is especially prevalent at the intersections located at the centre of the village cores in Enfield and Elmsdale.

## 2.3 Community profile

### 2.3.1 Demographics, Businesses, and Institutions

Though the population is comparatively small (11,376<sup>10</sup>), population growth is high in the three communities. The most growth has occurred in Enfield, with 31.2% growth since 2001. Combined, these communities have one of the highest growth rates in the province. This growth can be partially attributed to affordable housing prices in the area, which attract young, working families. Significant residential development is anticipated to occur within these communities to cater to this population growth. This expectation is held both by the municipality and also in the private sector with a number of large development companies owning large areas of potential residential land.

FIGURE 2: Population Pyramid





In addition, there are a number of elementary schools in the local area, which have been recently constructed or upgraded. These schools cater to the youngest of a growing school population. All students above grade seven are educated in the nearby town of Milford, at either the Riverside Education Centre or the East Hants Rural High School. The distance to this community is around 12 km from Enfield, making it too far for many AT users. Students generally travel to the school via regular school bus service provided by the School Board.

Reviewing the population pyramid (Fig 2)<sup>11</sup> indicates a significant population bulge in the 35 to 50 year old demographic. There is a consistency of population size in the age groups between 0 and 20 years of age (see Fig 2). Youth under 20, then, comprise a very significant proportion of the overall population at 26.9%<sup>12</sup> of the population<sup>13</sup>. There is also a significant stay-at-home demographic that provides care to their children.

These communities have relatively low unemployment figures<sup>14</sup>, 74% of the population over 25 are employed, which is much higher than the provincial norm of 58%. While a significant population work within the MEH, around half of the population in these communities work outside the municipality<sup>15</sup> (See Fig 3). Considering the close proximity of the adjacent HRM, its prominence as a regional centre, and the nearby location of the Stanfield International Airport, many residents who work outside MEH commute to HRM for employment. This work exodus combined with the demographic

**FIGURE 3: Work Location**

Percentage of the Population  
that Work Outside MEH

**55%**

Percentage of the Population  
that Work Within MEH

**30%**

Percentage of the Population  
That Have No Fixed Address

**10%**

Percentage of the Population  
that Work At Home

**4%**

Percentage of the Population  
that Work Outside Canada

**3%**

data, indicates that Enfield, Elmsdale, and Lantz are best described as bedroom communities.

### **2.3.2 Culture and Recreation in the Southern Corridor**

The Municipality recently produced a Municipal Physical Activity Strategy, (June 2012) which outlines its vision of delivering recreation and culture services to the community at large. The four goals provided within the strategy are designed to guide the work of the Municipality in service provision<sup>16</sup>. These are:

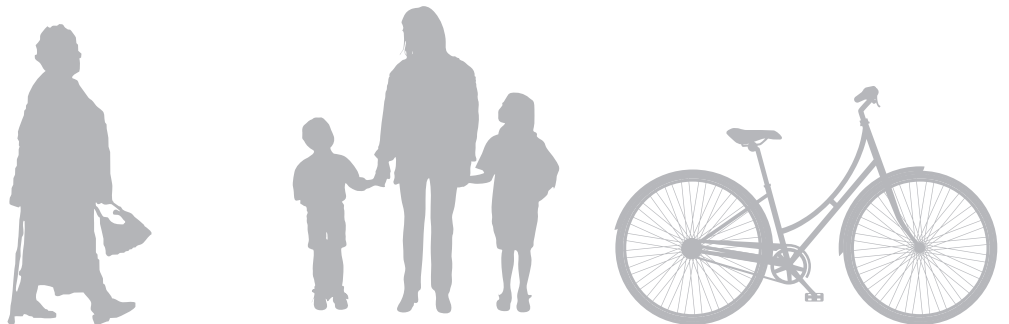
- *Reduce or eliminate barriers to physical activity.*
- *Increase community based awareness.*
- *Increase opportunities for children, youth, families and seniors to be physically active.*
- *Develop the built environment and active transportation routes of the Municipality of East Hants.*

The MEH will satisfy all four of these goals by increasing AT infrastructure or fostering an increase of AT use through policy or programs throughout the community. The Municipality has been active in evaluating its role in providing services to local residents. In 2008, it commissioned an independent research company to survey local residents. The survey determined that the majority (69%) of MEH residents do not do enough physical activity each week to achieve health benefits. This indicates that there is an established behaviour of inactivity amongst some members of the community. The survey also identified a lack of time, long distance to facilities and ongoing illness or health issues as significant barriers to AT.

Finally, dmA Planning Management Services have provided the Municipality with the *Recreation Needs Assessment Report* (NAR 2012). This document recognizes the increased responsibility that municipalities have taken on in providing recreation and cultural services to their rural communities.

The *Needs Assessment Report* encourages the MEH to start planning to enhance community recreation facilities. Its recommendations include the creation of an updated aquatic centre (with additional, flexible-use program space), a curling centre, a major skateboarding park and updating and maintenance of community centres where recreation services are located. This report places emphasis on the provision of costly capital infrastructure.

There are a number of programs throughout the South Corridor, which could intersect well with other initiatives to increase AT use in the community. There are regular social walking programs such as the *Indoor Walking Club* at the Maple Ridge Elementary School in Lantz. A local group of *Earthkeepers* have already done much work beautifying the sidewalks along the Trunk 2 and could be a valuable future partner to create or enhance other sidewalks, trails or walkways. The Shubenacadie River is a geographic feature that has historical and cultural interest; a local committee is currently working to establish a trail along its banks and it supported by recommendations made in the *Open Space Management Strategy*<sup>17</sup>. A broader, AT committee, walk to school program, or a local bike coalition would contribute to enhancing the existing recreation options, and incorporate them more fully into an AT network.



### 3.0 Policy Framework

All development in Enfield, Elmsdale, and Lantz is regulated by the *East Hants Official Community Plan*. The Plan is comprised of three main pieces: the *Municipal Planning Strategy (MPS)*, the *Land Use By-law (LUB)*, and the *Subdivision By-law*. The most current MPS, adopted in 2000, sets out the priorities and goals of the Municipality in the form of policy statements, which ultimately enables the Land Use and Subdivision Bylaws. The purpose of this section is to provide a synthesis of the *Official Community Plan* and other relevant policy as it pertains to active transportation in the three communities. This will form the basis of our policy recommendations to the Municipality. Policy with influence over AT in the South Corridor, either explicitly or implicitly, is found in the following areas of the Plan: growth management, community livability, residential development, environment, commercial and economic development, transportation and subdivision, and open space and public facilities. Active transportation policy can be presented under two broad themes—network and nodes—and can be broken down into several sub-categories: (1) sidewalks; (2) trails; (3) bicycle infrastructure; (4) new residential developments; (5) village and community cores; and (6) large scale commercial. Each category represents a piece of what constitutes an AT system.

#### 3.1 Sidewalks

The Municipality sees road design as having a direct impact on the visual character and function of the community. Given this, the MPS outlines a goal of creating roadways that are “sensitive to pedestrian safety and comfort” (MPS4-8). P4-43 directs the municipality to consider traffic-calming measures to increase pedestrian safety and comfort. In terms of sidewalk construction, P4-44 sets out the following:

Council shall require developers to construct sidewalks along one side of all primary subdivision roads, on one side of all roads providing access to a subdivision, and along one side of all roads connecting to or extending from an existing road with an existing sidewalk, with the exception of permanent cul-de-sacs, dead end streets, loop streets, and crescent streets containing 30 lots or less, and roads within the Business Park (BP) Designation in Growth Management Areas serviced by Municipal sewer and/or water, prior to the Municipality assuming ownership of the road.

Design and construction standards for sidewalks and walkways are found in the *Municipal Transportation Specifications*<sup>18</sup> (P4-45).

### **3.2 Bike Lane**

The Municipality also aspires to incorporate the needs of cyclists in the planning of street improvements and of new arterial and collector street construction (P10-24). Consideration will also be made to work with the *Nova Scotia Department of Transportation and Infrastructure Renewal* to consider dedicated bike lanes along the aforementioned roadways if widening is considered (P10-25).

### **3.3 Trails**

The MPS outlines the Municipality's goal of created a "linked trail system accessible to all residents". Generally, the Municipality supports the long-term development of a linked open space trail system connecting the villages, specifically within the corridor area (P12-18). The Municipality has adopted the *Nova Scotia Trails Federation Manual, Developing Trails in Nova Scotia*, as the standard for trail development in the region (P12-17), as proposed in the *Open Space Management Strategy*<sup>19</sup>.

### **3.4 New Residential Development**

The MPS outlines that "quality living environments" are important to the future sustainability of the Municipality. In building new communities, the policy goal is to support the "creation of new communities based on sound urban design and planning principles, resulting in attractive, functional, and sustainable neighbourhoods" (MPS4-3). The Plan acknowledges that basic land use planning, such as zoning, cannot achieve this objective and that more nuanced tools are required to achieve this. As such, the MPS equips the municipality with the "Comprehensive Development Districts" mechanism (P4-11) which, through development agreement, will encourage the development of "socially sustainable communities by considering urban design principles such as pedestrian accessibility, [...], densities, well connected and narrower streets, quality open space, [and] a mixture of land uses [...]" (P4-16). While not explicit, this policy empowers the municipality to pursue development agreements which support progressive AT development. In lands zoned Comprehensive Development District, the Plan allows the municipality to consider alternative road design standards that would enhance the community form, on the condition that "the function of the road would not be compromised" (P4-48).

A large amount of the undeveloped land in the South Corridor is encompassed within the Neighbourhood Comprehensive Development District (NCDD). There are currently two significant NCDDs currently in

place in the South Corridor. Site 1 is owned by Clayton Development Ltd. in Lantz representing an assembly of land surrounding the Sportsplex and the Maple Ridge Elementary School totalling approximately 269 acres. Site 2 is owned by Bedford Basin Estates Ltd. and is located in the northeast end of the district of Lantz totalling 724 acres

Policy 5-36 establishes the conditions to which the municipality must satisfy when entering into a development agreement in an NCDD. Among other things, the Municipality must consider the “extent to which the proposed phased development provides for the “efficient pedestrian movements into, out of, and within the development”. This is to include considerations for how the proposed pedestrian network “link[s] up with existing sidewalks and walking trails on abutting lands to provide for a cohesive network of the same” (P5-36(c)). Policy 5-38 outlines some alternative development standards that the Municipality could consider when entering a development agreement, specifically: (a) smaller lot sizes and frontages; (b) reduced yard setbacks; (c) “alternative roadways standards to include narrower required widths for both the right-of-way and traveled surface, flexible gradient requirements, the use of boulevards, [...]”; (d) “the acceptance of pedestrian walkways in lieu of a portion of the required parkland dedication as provided under the *Municipal Government Act*; and (e) clustering and mixing of various housing styles and densities. Both policies P5-36 and 38 set out a promising, but non-binding, opportunity for development that could support AT usage through residential development.

The Municipality’s transportation policies endeavour to “ensure the safe, efficient, and convenient movement of people and goods [...] creating attractive, livable communities, with people friendly streets [...]” (MPS10-1). They attribute the auto-dependent development pattern for a decrease in pedestrian activity due to “over-engineered roads, high traffic volumes, and an absence of traffic calming measures” (MPS10-1). They say that newer streets often are too wide, too long, and generally do not connect with adjacent streets and community amenities. The Municipality’s policy is to “favour a modified grid street pattern over a discontinuous and curvilinear street pattern for new subdivisions” as per the *Municipal Transportation Specifications* (P10-27) to maximize efficiency of pedestrian and vehicular movement in NCDDs.

### **3.5 Village Cores**

The MPS guides the establishment of the Village Core Designation (P9-52) for the purpose of

allowing for a diverse mixture of retail, service, business, and residential uses in an environment serving both pedestrian and vehicle needs within an aesthetically pleasing, socially interactive streetscape serving both a local and a community-wide population (MPS9-9).

The Village Core Zone (C6) occurs in the village cores of Elmsdale and Enfield (P4-24; P9-55) guides development to be small-scale and mixed-use in nature to encourage a “pedestrian friendly retail and service environment” (P4-22). Concentrated, human-scaled commercial development can encourage the use of AT to access these centres. The Community Core Zone (C6A) is similar to the Village Core Designation and serves the smaller, less developed community core of Lantz (P9-55a). To control development in these cores, the Municipality has adopted (as per P4-34) a set of design standards (Appendix E of the *Land Use Bylaw*) for site development that ensures development “is compatible in scale and character with surrounding development, [and] encourages a pedestrian accessible environment” (LUB11-6). The bylaw regulates both commercial and residential development at the building and site design level. All development in these cores require approval from the municipality to ensure they abide by these standards (P4-35). The *Village Core Plan*<sup>20</sup> lists a series of recommendations aimed at revitalizing the Village Cores through amendments to the Appendix E design standards to be more agreeable to the AT user experience.

### **3.6 Large Scale Commercial and Industrial**

P3-15 establishes an area encompassing the Elmsdale Business Park and the area surrounding the adjacent Superstore and Sobey’s developments as a “Regional Commercial Growth Management Area”. The purpose of which is to “provide for the future expansion of large- and medium-scale commercial development” in this area (MPS3-7). This is regulated by the Regional Commercial (C4) and Business Park (C8) Zones.

### **3.7 Other Relevant Policy**

Policy 13-9—referenced throughout the MPS—contains the evaluation criteria, terms, and conditions for most development agreements with the municipality. This applies to the NCDD Zone and also the Village and Community Core Zones, but not Regional Commercial or Business Park Zones.

## 4.0 User Groups and Analysis

A comprehensive AT strategy is, in final analysis, for people. AT infrastructure can beautify places and add to the cultural capital of a city or community. More importantly, it helps people move around their communities in a healthy and fun way. Active communities have healthy citizens, and any municipality aims to have healthy constituents. A recent health report completed by *Thrive Nova Scotia*, identified strong social policy as the most effective means to creating a prevention strategy. Human powered movement, supported by AT, can greatly contribute to that goal by providing a utilitarian network to connect people to their workplaces, shopping destinations, and recreational facilities.

Health is not just an individual concern; Nova Scotia currently has the highest rates of chronic disease in Canada. Many of these, like heart disease and diabetes are linked to obesity. Obesity rates in Nova Scotia show that “62% of all residents do not get enough physical activity. This is a major concern considering 32% of Nova Scotians aged 2-17 are overweight or obese, compared to 26% of Canadians of the same age”<sup>21</sup>. Obesity levels are linked with an increase in health care costs; students as young as grade 5 have as much as a 20% increase in health costs over non-obese children.

Obesity is sometimes attributed to individuals making poor choices. However there is evidence to support the notion that the environments that people live in increase their likelihood for obesity. Indeed, a current report on health in Nova Scotia indicates that obesity is, “a normal response, by normal people, to an abnormal environment”<sup>22</sup>. The likelihood for individuals to be obese also increases if they have a friend, spouse, or family member who is obese. Furthermore, children with obese parents are 10 times more likely to be obese themselves.

Across the province, youth have been reported as having largely sedentary lifestyles. While differences may occur on a community level, data indicates that less than 30% of grade 7 Students and less than 5% of grade 11 students will meet the minimum guidelines for physical activity on a daily basis. As students get older, the amount of physical activity will decrease and the likelihood of obesity or food insecurity increases. Individual choices, then, play a role, but environment and upbringing is a major determining factor in whether children grow up to be obese and suffer from chronic diseases.



You are 57% more likely to be obese if you have an obese friend. If you have a spouse or sibling that is obese your likelihood increases by 40%.

**Obesogenic:**  
An environment causing obesity.

It is clear that people are experiencing the adverse effects associated with the modern lifestyle; “obesity is a complex issue with root causes that extend far beyond food and activity, to a wide variety of factors including sleep, stress, and our underlying genetics”<sup>23</sup>. These effects are compounded by “stigma, bullying, and discrimination in employment, education, and health care. [Obesity] is linked to low self-esteem, depression, and other mental-health issues that can interfere with learning and healthy active living”<sup>24</sup>. These symptoms of growing up and living in an “obesogenic” environment are all counteracted by regular exercise which has been shown to improve sleep, decrease cortisol levels (the hormone associated with stress), and improve body image and self-esteem. Many of these positive effects can also be attributed to active recreation activities such as using indoor swimming pools, or playing organized sports. For this reason, active recreation can be a great motivator for residents to use AT infrastructure.

Community organizations in East Hants have already implemented social and recreational programming that is an integral part of the proposed AT network. Indeed, many of the services available, are destination points for both youth and families. Active transportation benefits communities as a whole and not just individuals; it promotes cohesion and connectivity between people, institutions, businesses, and community organizations. Implementing an AT network in communities involves understanding the needs of the user groups accessing it. An active transportation report by the Ecology Action Centre outlines some of the components involved in successful community engagement in AT. Asset mapping and needs assessments are helpful in this process. These activities must involve both adults and youth.

Effective citizen involvement includes individuals and groups not only in the planning process but in the implementation stage as well. People with a vested interest in a project, who feel that their concerns have been taken into consideration, are more likely to act as stewards for the Plan. A site analysis in the East Hants South Corridor revealed that residential areas and services are disconnected by circuitous routes that are designed around vehicles. The confusing layout of some residential areas in East Hants, has led some citizens to use informal pathways and trails, sometimes walking along ATV paths, in order to reach their destinations. This sort of informal network is closely linked with a possible, future AT network.



## User Groups

### 4.1 Residents living and working within the Southern Corridor

With the exception of those residents who commute to Halifax or the Halifax International Airport for work, many community members live and work within the three communities of the South Corridor. During a public consultation session we discovered that, beyond the strong desire for a public transit service in the area, many residents would use AT if it was safer and easier. A major destination, identified by every participant, was the Elmsdale shopping center and Commerce Court. This area includes the Municipal building, health center, library, grocery store, gas station, and Tim Horton's. With extensive services, it was identified as a focus of both recreational activity and employment by many consultation participants.



The location of this center near the interchange for the Highway 102, creates a safety hazard, traffic congestion, and a considerable challenge for AT infrastructure. Some participants were avid walkers and explained that the distances between subdivisions, workplaces, and shopping centers, while walkable, are unpleasant, unsafe, and poorly maintained.



Most trips for this user group occur throughout the day, with peak movement occurring in the early morning and early evening. Some participants expressed a desire to have nearby locations quickly accessible for lunch-time trips. Users travelling between the grocery store and the library, for example, would currently need to drive across the highway—a very short distance—because of the lack of pedestrian or cycling connections.

This user group is relatively mobile, minimally active and interested in recreational spaces and increased activity. They sometimes have children or young adults under their care. They have a consistent travel pattern to key destinations and a limited travel distance between those destinations. They travel mostly between home, work, school, and commercial areas during morning and noon peak traffic hours, and in the evenings.

// Human powered movement, supported by AT, can greatly contribute to that goal by providing a utilitarian network to connect people to their workplaces, shopping destinations, and recreational facilities. //

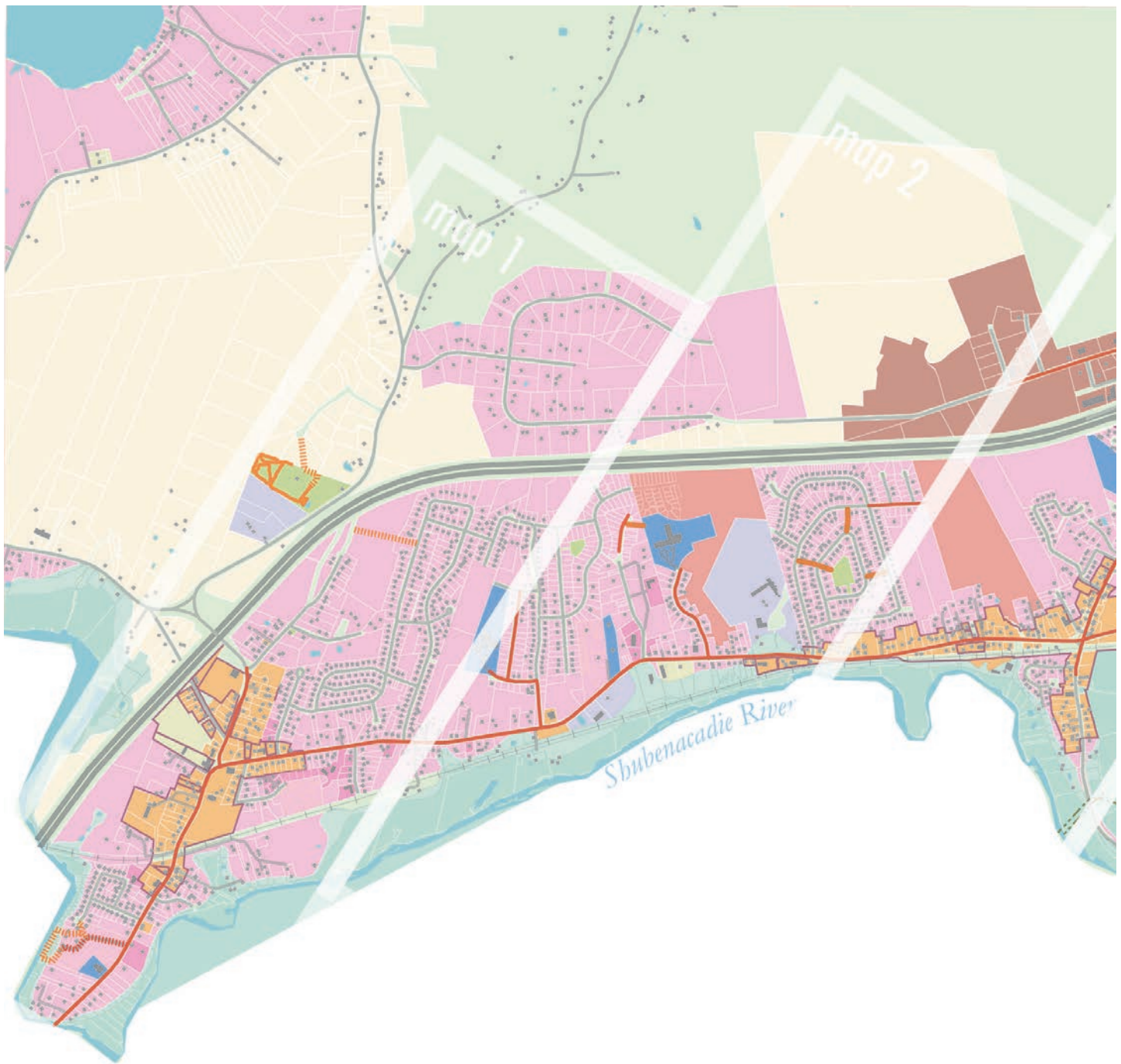


## 4.2 Youth

In East Hants, youth comprise 26.7% of the population and do not, in many cases, have access to vehicles, which leads them to rely on a parent or guardian to travel from place to place. Given the lack of AT infrastructure, parents feel uncomfortable letting their children travel long distances on their own by foot or bike. This takes away from their independence. While there are active recreation resources available for youth, they are mostly inaccessible by AT.

During a consultation session, youth identified their key destinations and revealed that the majority of movement occurs between school and home. Most students travel to school by bus or car given the location of Hants East Rural High in Milford. While some students were employed, most were not. When asked about the infrequency of their travel within and between the communities, participants explained that because of the way that services are distributed between the communities, many young people feel they have nowhere to go. That is, most services (pool, convenient stores, Sportsplex, library, etc.), are widely dispersed and separated by large distances, accessed mainly by automobile, and disconnected from each other. These services are the main attraction for young people and, given their disconnectedness, they are not being utilized fully. Some students claimed that they travel using informal ATV routes to visit friends in neighbouring suburbs, because travelling using the formalized sidewalks would cause them to take a circuitous and impractical route.

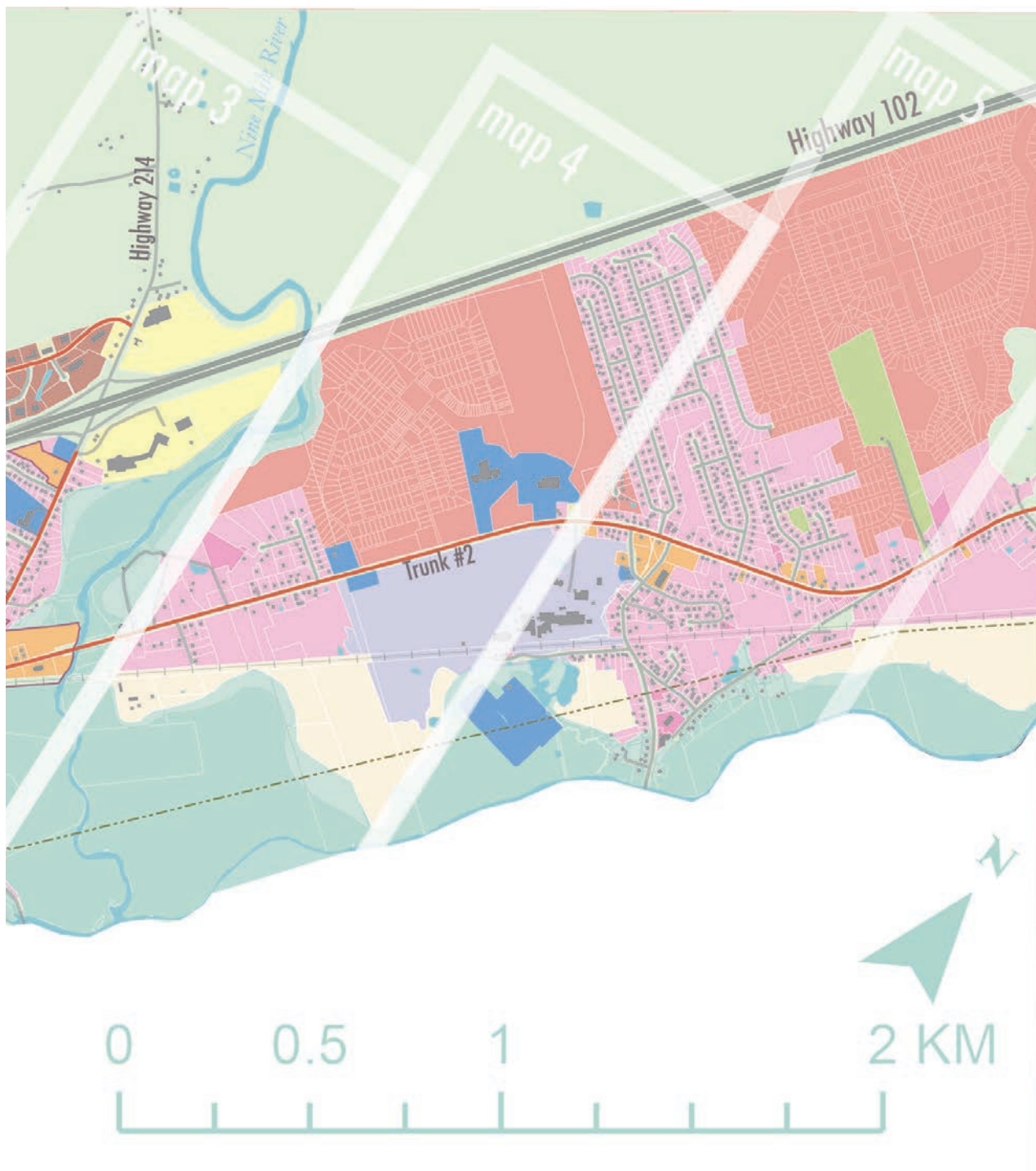
Because the majority of their day is spent at school, youth travel mostly in the early evening. Their dependence on their parents is exacerbated by this fact, given that perceived danger increases as the sun sets. Pressed for time, young people take shortcuts, drive, or just stay home. The considerable sidewalk creating links between the communities was identified as a danger in the evenings and in winter because of insufficient lighting, security, and winter maintenance. The existing infrastructure does not effectively support and enable AT usage.



### 4.3 Site Analysis

To build on this information, a field visit and walking tour, was completed in the older, residential developments in the South Corridor. The purpose of the field visit was to contextualize qualitative information received from community members during the public consultation sessions. The field trip had the added objective of cross-checking GIS data with the physical landscape itself, and to explore whether additional, unmapped and informal connections exist within the communities.

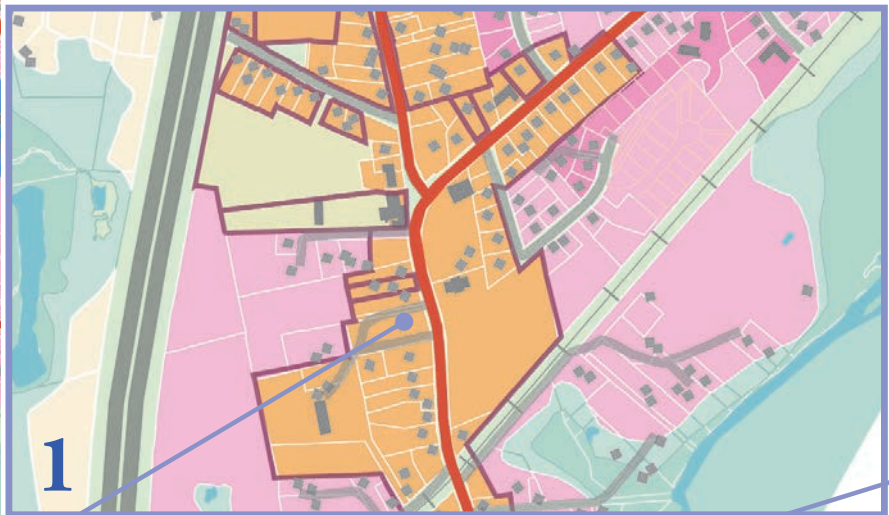
The walking tour provided an interesting glimpse of the development patterns emerging over time. Older, more established areas possess little in the way of sidewalks or connecting walkways, both of which are features of more recent developments.



There was also much evidence that a series of formal and informal trails create a fledgling trail system between residential subdivisions within these communities. These informal/formal trails networks considerably shorten the distances between locations which would otherwise have to travelled along the curvilinear road form of the subdivision.

These informal trail networks provide quick, pedestrian access to locations that, by travelling along the road, would take longer to reach. In one example, a 5 - 7 minute walk along an informal trail between a cul-de-sac in a residential area and Enfield Elementary School, would have taken 25 minutes or more to travel the same distance (1.7km) by road. Clearing the informal trail of fallen trees would further reduce that time. As there was a covering of snow on the ground it was readily apparent that these networks are regularly used. Despite the absence of snow removal on many of the walkways within these communities, it was obvious that people were using them.

# Map 1 - Enfield



Due to the clustering of retail services in this village core there is a fair degree of pedestrian traffic in this area. As a result of increased traffic volumes along the Trunk #2, traffic is being delayed as it moves through intersection. By being impatient or taking advantage of a quick opportunity to go, drivers do not always pay attention to pedestrian activity at the cross walk. Pedestrians are required to ensure their own safety in this environment.

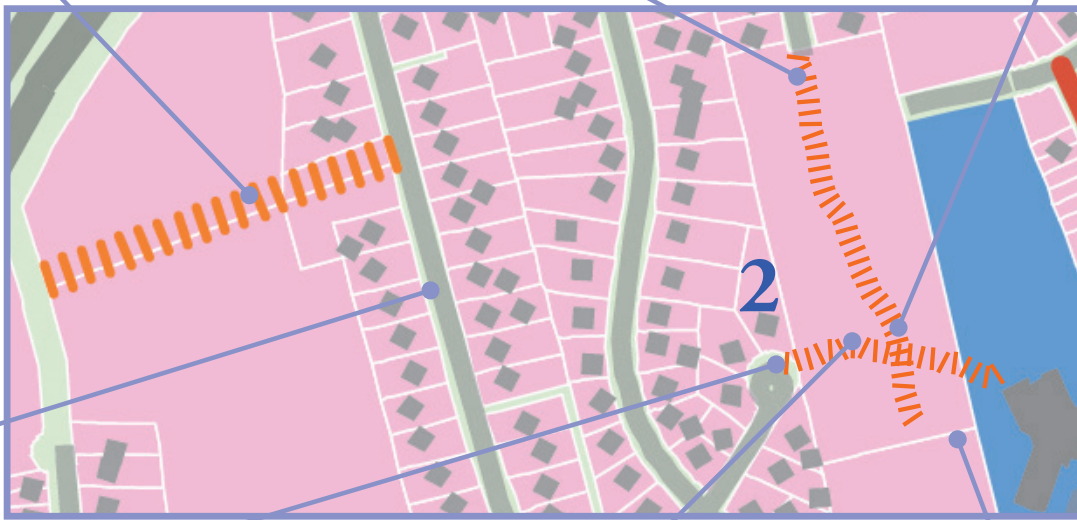


Older roads within subdivisions have no sidewalks. At some locations culverts, soft shoulders and snow buildup may force AT into roadway.

Watermain recently installed with informal pathway on top - currently gated. MEH in negotiation with private landowner to gain easement for trail designation. Currently used as an informal trail. Looks directly over to Lions Club park but no direct connections over or under the 102.

Abrupt ending to Carriage St, anticipated extension when subdivision is developed. Informal walking trail extends from here to school.

Informal trail junction mid-way between school and cul-de-sac.

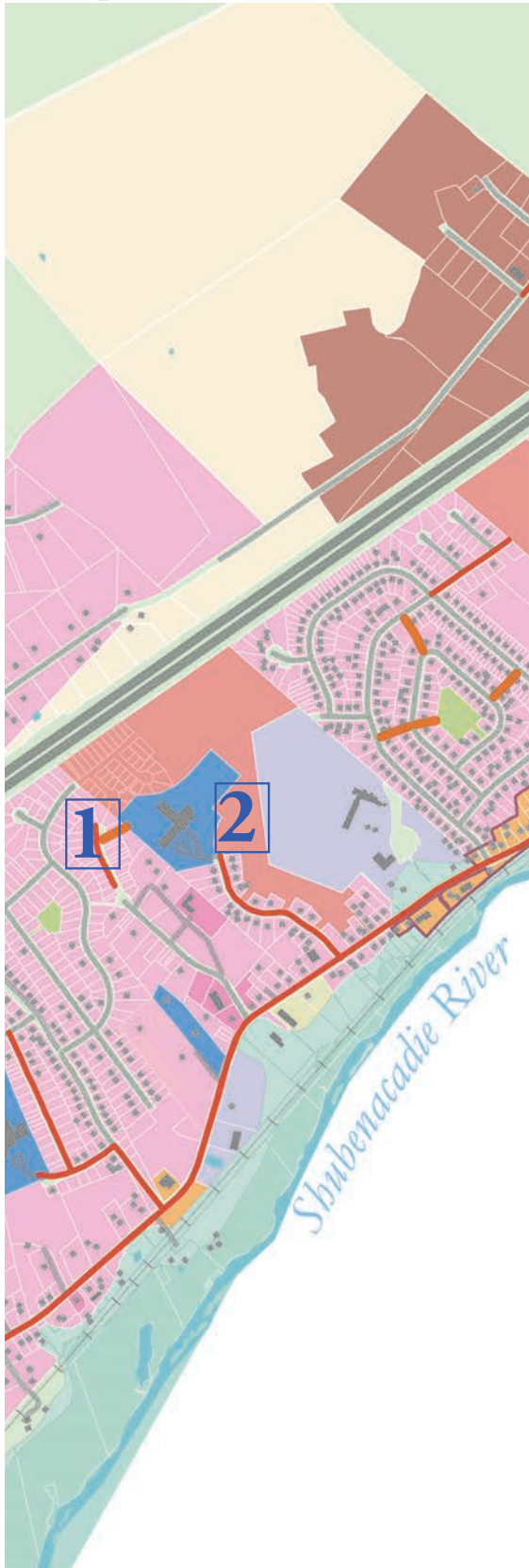


Informal trail between Cul-de-sac and Enfield Elementary School. Footprints indicate pedestrians climb over ploughed snow and move up hill. This trip is a 5-7 minute walk along an un-cleared trail, otherwise the trip by road and sidewalk is much longer - 2.5km.

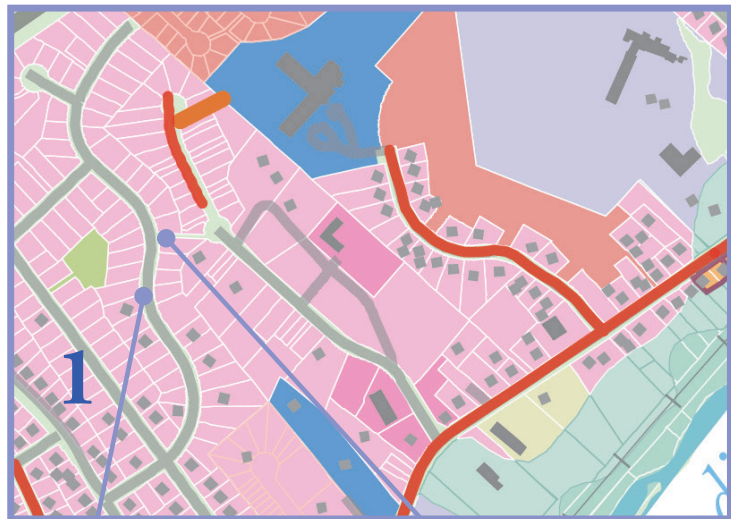
At top of rise walking is easy except in some areas where trees have fallen and have not been cleared.

When these lots are developed into subdivision AT connection should be maintained. Being adjacent to a school requires this property to undergo DA process.

# Map 2 - Enfield



Trail / Walkway	Village Core Designation
Trail / Walkway - Proposed	Residential - Low Density
Sidewalks	Residential - Multi-unit
Sidewalk - Proposed	Residential - Rural
Highway	Open Space
Road	NCDD
Railway	Concepts
Utility Corridor	Institution
Flood Zone - Medium Risk	Commercial - Highway
Flood Zone - High Risk	Commercial - BusinessPark
	Commercial - Regional
	Commercial - Small Scale



Older subdivision along Tyler St has no sidewalk.



Beginning of walkway from Tyler St, not ploughed although entrance cleared.



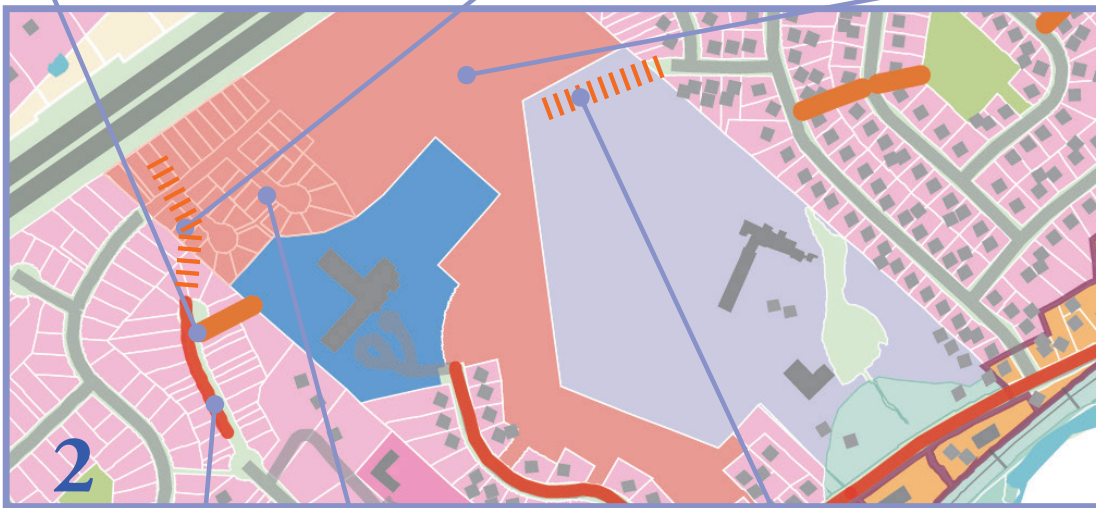
Walkway between Kali Lane Extension and Elmsdale District School not ploughed.



Informal unmarked trail along north eastern boundary of Elmsdale District School.



Informal trail junction marked by two posts.



New residential area - Kali Lane Extension has sidewalks.

Private property adjacent in process of development approval. MEH planners asking developer to reconsider cul-de-sac development. CDD requirements mean that a trail system should be considered within design.

Is there a possibility that this trail system can be connected to Blakely Drive by crossing corner of lumber yard or alternate possibility. A connection through here would connect to the next residential cluster?



View east from Blakely Drive across to Elmsdale Lumer Yard property. Evidence of an informal trail - barricaded to prevent ATV use - but no signage to discourage walkers.

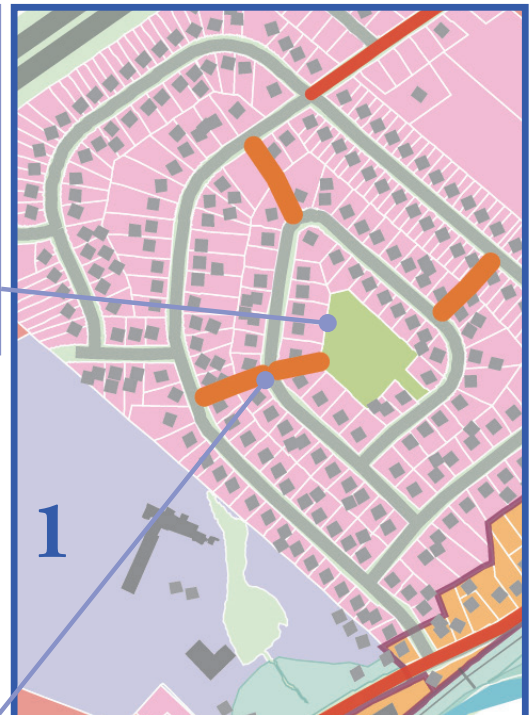
# Map 2 (cont) - Enfield



Trail / Walkway	Village Core Designation
Trail / Walkway - Proposed	Residential - Low Density
Sidewalks	Residential - Multi-unit
Sidewalk - Proposed	Residential - Rural
Highway	Open Space
Road	NCDD
Railway	Concepts
Utility Corridor	Institution
Flood Zone - Medium Risk	Commercial - Highway
Flood Zone - High Risk	Commercial - Industrial
	Commercial - BusinessPark
	Commercial - Regional
	Commercial - Small Scale



Adult orientated outdoor gym equipment in local park. Park owned by MEH with designated maintenance responsibilities provided by Community Association. Establish minimum standards as deemed appropriate to all stakeholders. Perhaps funding support can be provided through community grant.



Walkway cuts through two concentric streets to centre of subdivision. Official signage designating the area as public land but no way-finding on this side to indicate a park. Minimal winter maintenance of walkway a result of no parks and grounds department.

A high wooden fence indicate walkway ends. Footprints go half way along and then stop.



This photo shows a regular occurrence - snow is ploughed in front of rural mail boxes. The mound from this impedes pedestrian passage onto the walkway which commences next to the mailbox. Revise ploughing procedure to avoid inconveniencing and/or endangering pedestrian access.

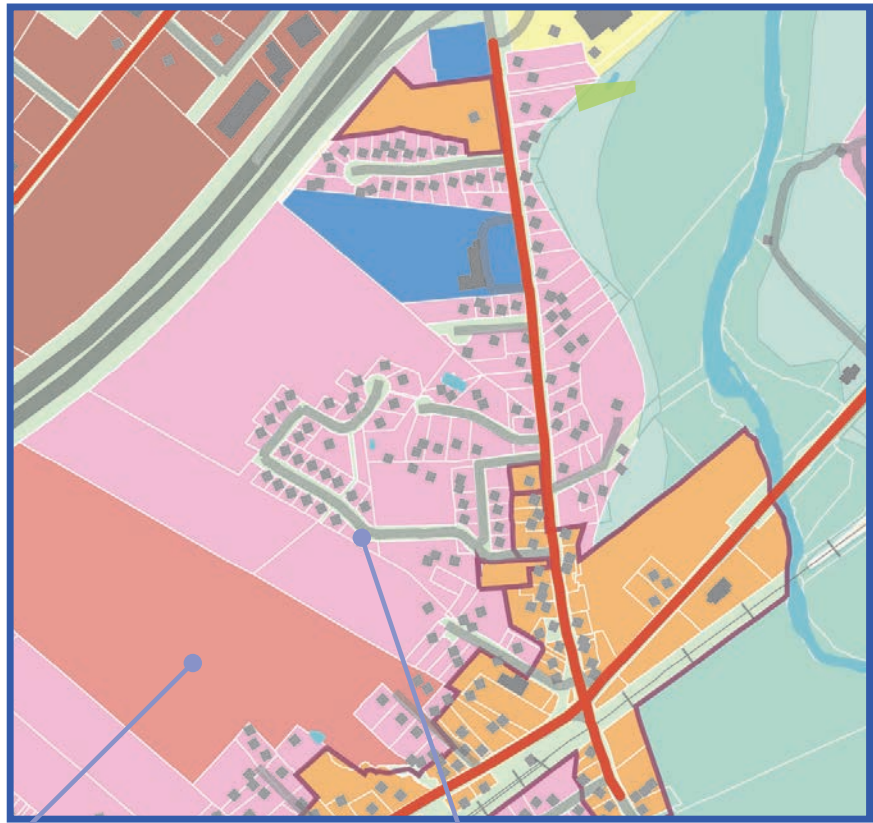


Walkway between Tannery Drive and Hemlock Drive indistinct. Two rocks are in place as markers, otherwise this appears as private property not as the public land it is.



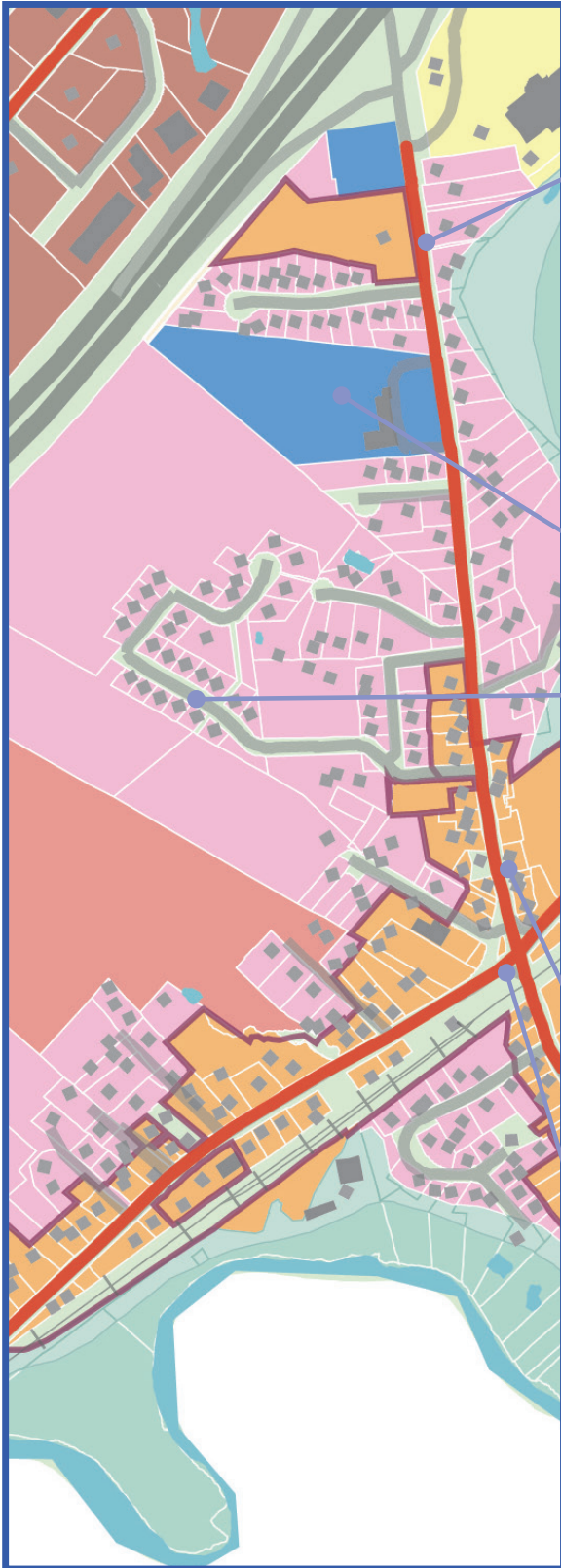
Distinctive signage on Tannery Drive but no indication that it is a public thoroughfare. Consistent signage is required to clearly indicate how the series of interconnected streets, walkways and roads constitute the fledgling network of the middle trail.

# Map 3 - Elmsdale



While this property is zoned R1, the owner is considering a development approach which includes walkways and trails to enable pedestrian connectivity. New trails should connect to existing trails and anticipate new connections to create an overall network.

In some areas of study area residential subdivision is an as-of-right development. In these cases it may be optional (not required by policy) for developers to put in a trail system which provides connection between existing components of the middle trail. Establishing a local group or AT committee can advocate for all future developments to prioritise connectivity within subdivision design.



Hwy 214 - Elmsdale Rd has an existing sidewalk which ends at the overpass to the 102 and just south of the Village Core district. Slightly widening this sidewalk by removing the grass verge and changing designation to a trail will enable both pedestrian and bike use .

The middle trail is most likely to connect with Hwy 214 - Elmsdale in either of two locations. These locations are indicated below:

1. Public Land currently owned by Chigneto School Board. Trail possible if permission attained.
2. Pine Hill drive is another optimal location. This location provides a more westerly connection and proximity to the Elmsdale Village Core.



Roadway narrows in commercial area, where drivers and AT users are likely to slow down or stop. Landscaping and increasing AT infrastructure should be considered for this area.



Intersection of Trunk #2 and Elmsdale Road is very broad. Local residents complain of safety issues around this intersection. Retrofitting the crosswalk or providing speed tables will calm traffic speeds and increase convenience for AT users.

# Map 3 (cont) - Elmsdale



MEH has just recently purchased a small lot of land between the Sobeyes and the McDonalds Restaurant. This is to be designated as Open Space in anticipation of future trails development, in particular the middle trail connection to Lantz.



Between the Sobeys' Retail Plaza (1) and the MEH offices and Business Park (2) is the most problematic 500m stretch in whole community. Pedestrians, bike riders and other AT users need to compete with cars moving in and out of parkades, accessing and exiting the 102 and local traffic. In addition there is no side walk or shoulder on the portion of Elmsdale Rd which comprises the overpass across the 102.



Otherwise the opportunities for AT users in this area is high. This destination attracts many visitors seeking retail, work and recreation opportunities. Often multiple destinations are sourced and the distance between them is less than a 10 minute walk, making it very achievable for all AT forms.



The main cross walks in this area are broad with fading linework. Traffic is heavy with vehicles frequently moving on and off the roadway. Cross walks need to be simplified and made clearer to AT users and drivers.

Nine Mile River area: designated flood area, mid and high risk. Currently, restrictions are placed on development in this area although R1 & R2 still permitted in the mid risk zone. Should this area be public open space with trails, AT river crossing, or should development be permitted?

# Map 4 - Elmsdale-Lantz





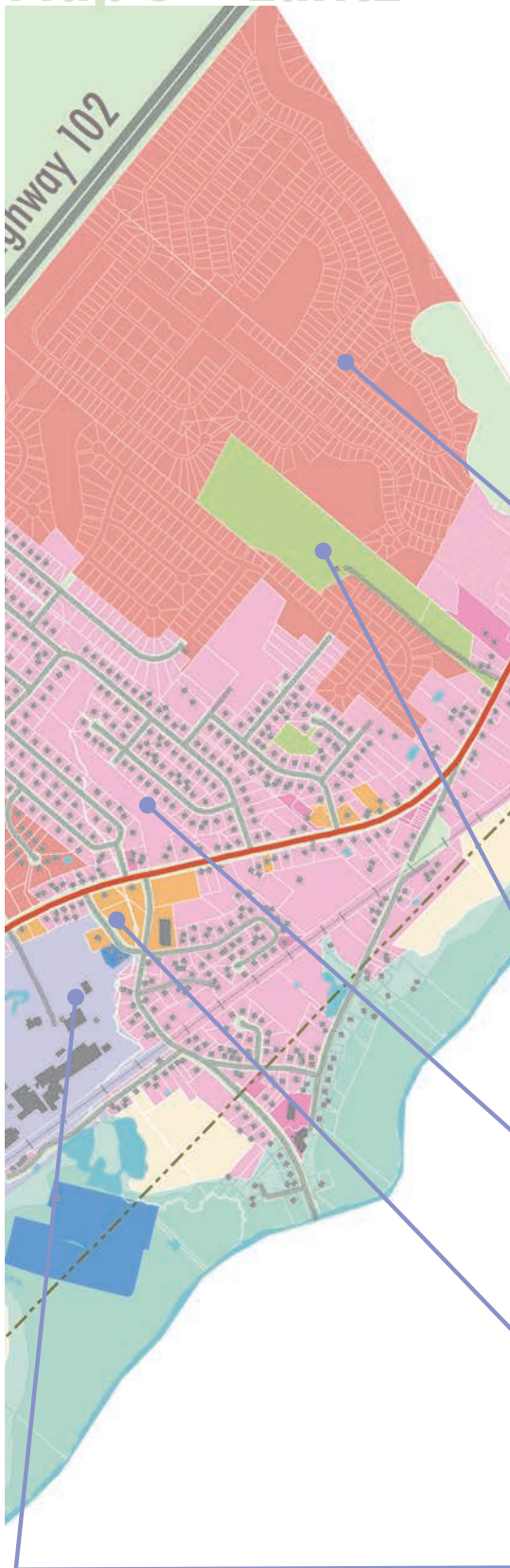


Two large parcels of land in Lantz are designated Comprehensive Development Districts (CDD) as indicated on the GFLUM. CDD's are developed through a development agreement process which provides MEH substantial input into the final design of the residential form. With appropriate policies in place the municipality can require walkways and trails which connect communities. Municipal staff have already prepared some graphic information that outlines a projected street and house lot form with walkways that connect dead end cul-de-sacs. This graphic provides an indication of the degree of connectivity envisaged when developing future subdivisions.



Adults that attended the public consultation were proud to identify the recently built Sportsplex in Lantz as a community asset. According to consultation participants, the facility provides a much needed space for team sports, walking and running, and other recreational activities. While adults were quick to mention the Sportsplex in Lantz, many youth participants explained that the facilities were mostly used by people who partook in team sports. As a result the Sportsplex was not a big focus for youth. At present most visits to this facility are made by vehicle.

# Map 5 - Lantz



Trail / Walkway	Village Core Designation
Trail / Walkway - Proposed	Residential - Low Density
Sidewalks	Residential - Multi-unit
Sidewalk - Proposed	Residential - Rural
Highway	Open Space
Road	NCDD
Railway	Concepts
Utility Corridor	Institution
Flood Zone - Medium Risk	Commercial - Highway
Flood Zone - High Risk	Commercial - Industrial
	Commercial - BusinessPark
	Commercial - Regional
	Commercial - Small Scale

Future development in this area is all large scale. Envisaged MEH design still features many cul-de-sac dead ends, some which have walkways and other have not. Those that do not limit connectivity for the AT user. Rather than continuing with vehicle centric development, designing the residential form around the AT network would facilitate a greater and more integrated connectivity. Due to the large scale of the development an opportunity exists to consider alternative residential developments such as conservation open space design. These design alternatives would enhance community form and increase AT connectivity. With many streams and wooded stands this form of development would also take advantage of inherent beauty of this area.

Lantz Recreation. There is currently two Ball and one Soccer fields. There is currently no alternative connection to this recreation centre.

Community members identify the existence of an informal trail providing a pedestrian alternative to an otherwise indirect route offered by the existing road network. Used for travel within the subdivision to visit friends and for others as a valuable access route to the Lantz Village Core.

Lantz Village core. A loose collection of small-scale businesses and community amenities, including a non-operational Fire Hall, swimming facility, and post office. Members of the community expressed their willingness to walk or bike to the core, however they expressed a desire for more local businesses setting up shop, particularly a village pub.

L.E. Shaw outdoor pool in Lantz . A recreation needs assessment recommends that this facility be updated and expanded to include flexible programming space.

#### **4.4 Opportunities for AT in the South Corridor of East Hants**

The user groups identified move through the community differently and have different needs, but there are general needs that can be addressed through changes to the physical landscape to make AT more accessible. There are many opportunities for AT implementation in the South Corridor of East Hants. The site analysis yielded a number of opportunity areas related to the policy framework already in place.

##### **Sidewalks**

The communities of Enfield, Elmsdale and Lantz are currently linked by two linear sidewalks, the 'spines' of the community. This fully interconnected, existing AT infrastructure is alongside the Trunk 2, and along the Highway 214 (Elmsdale Road). They exist on one side of both the Trunk 2 (the north side) and the 214, and extend uninterrupted through the communities, and from the Elmsdale village core to the commercial centre adjacent to the Highway 102.

Sidewalks in older residential developments, though intermittent, provide a good foundation for an interconnected system of walkways between communities. The cul-de-sac form, which can increase distances between destinations, can be addressed through providing informal links such as pathways and walkways between subdivisions, and establishing more formal routes to major destinations. These routes, both formal and informal, are feasible for the South Corridor and can do much in lessening the travel time between destinations caused by circuitous street patterns in the area. Existing informal trails have a great deal of potential and, with adequate signage and maintenance, can be comfortably integrated into a larger network for AT within and between the communities of the South Corridor.

##### **Bikes**

The long, uninterrupted sidewalks, along the Highway 2 and 214, provide adequate space for a separated bike lane. Community members can already be seen using bicycles on the existing infrastructure, and with added safety, policy support, and infrastructure, more users can cycle as an alternative to driving. Bicycles have the added benefit of allowing users to carry more items by attaching a pannier or bike trailer, which makes them perfect for trips to collect groceries or do some light shopping.

##### **Trails**

Woodland areas, public open spaces, and watercourses, are interspersed between schools, residential developments, business parks, and community centres. These community assets can be used to develop an AT network throughout the community, rather than just along the main arterial roads. Beyond providing direct routes to regular destinations,

such a network would also have the added benefit of providing users with the opportunity to enjoy beautiful, diverse, and unique landscapes. This complex connectivity provides incentive for AT users by establishing variety. It also caters to more individuals' needs by providing greater AT access to local schools, commercial centres (village cores), and even workplaces from residential areas.

### **New Residential Development**

New developments, such as residential subdivisions, are great opportunities to place an AT network high on the list of priorities. Designing these communities, by providing walkways between cul-de-sacs, will create opportunities for travelling throughout the communities without relying on the car. There is policy in place that supports more connected communities in future developments, particularly in areas designated as Comprehensive Development Districts (CDD). The Union of Nova Scotia Municipalities (UNSM) in Resolution 20A encourages municipalities to make AT planning a priority. MEH indicates in its Integrated Community Sustainability Plan (ICSP), its Open Space Management Plan (OSMP), and its Municipal Planning Strategy (MPS), its intention to increase AT as a means to diversify transportation options for residents. The Municipality also seeks to increase connectivity between residential areas either through retrofitting of existing subdivisions, or as a requirement in future large scale residential developments.

### **Village Cores**

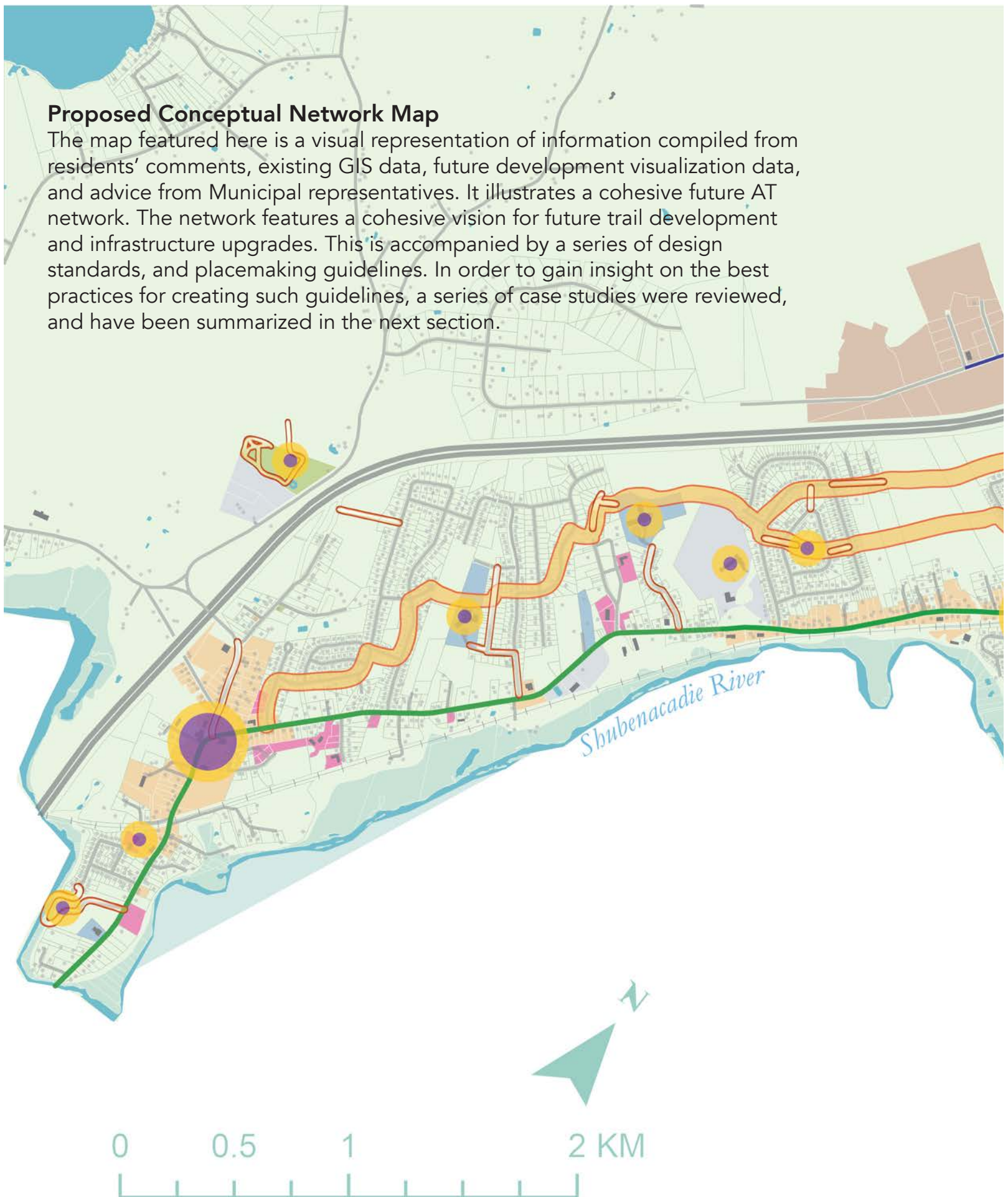
The Village Cores of Enfield, Elmsdale, and Lantz, are community destinations or nodes. Nodes are a cluster of destination points or a single destinations where a volume of users regularly travel. Nodes include dense residential areas, commercial, recreational, employment or education centres, and/or transit hubs. They can be understood as dynamic locations that change over time. Furthermore, the 2011 *Village Core Plan* study found that local stakeholder's top priorities were trails and open space, when they were consulted on ways to rejuvenate the traditional Village Cores. Developing these existing Village Cores with safety features, wayfinding signage, and integrating them into an AT network, will strengthen the cores as well as the network.

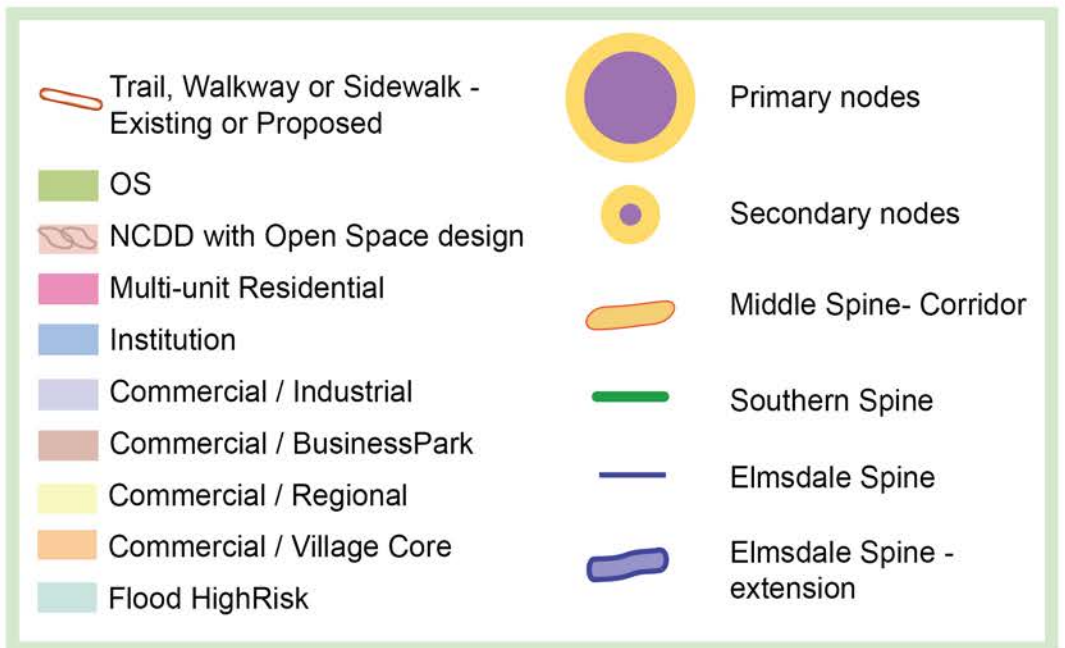
### **Large Scale Commercial and Industrial**

Business Parks in the MEH present an opportunity for AT. Being a major source of employment, many people travel and work there daily. Retrofitting business parks to have pedestrian friendly walkways and sidewalks, landscaping, street furniture, and safety features, would make working more enjoyable and healthy. These features would allow workers to take a short walk during a lunch break, adding to worker satisfaction.

## Proposed Conceptual Network Map

The map featured here is a visual representation of information compiled from residents' comments, existing GIS data, future development visualization data, and advice from Municipal representatives. It illustrates a cohesive future AT network. The network features a cohesive vision for future trail development and infrastructure upgrades. This is accompanied by a series of design standards, and placemaking guidelines. In order to gain insight on the best practices for creating such guidelines, a series of case studies were reviewed, and have been summarized in the next section.





## 5.0 Best Practices: Developing an AT Strategy for the South Corridor

### Challenges and Opportunities for AT in a Rural Setting

AT implementation faces unique challenges in rural settings; much of the research available for retrofitting, creating design standards, and planning for AT are presented in an urban context<sup>25</sup>. The long distances between destinations require extensive roads, and costly road maintenance<sup>26</sup>. In many cases, municipal officials lack time and expertise, and must outsource studies and strategic planning to pricey consulting companies<sup>27</sup>. The rural “car culture” which develops out of necessity is also a factor in creating a successful AT plan. These challenges are very real and cannot be ignored; rather, they can be addressed and seen as opportunities for improvement.

Haliburton, a rural county in Ontario, created an action plan for overcoming the challenges of implementing AT in a rural community. With a five-pronged approach, including partnerships, planning, advocacy, promotion, and small-town opportunities, it was able to implement effective changes. With a budget of \$47,000, Haliburton County focused first on promotion, creating and selling a county cycling map, launching a website, and later running the *Shifting Gears Cycling Festival & Workshops*, which has run successfully since 2006<sup>28</sup>. Eventually these seemingly minor steps led to the creation of the *Haliburton County Cycling Master Plan*, and the installation of art bike racks throughout the County.

Success stories such as the one above provide inspiration, and important lessons for other Canadian municipalities aiming to implement AT. The challenges faced by rural municipalities are not insurmountable, and, with time, can be overcome. The following section provides an overview of case studies from places faced with some of the same challenges as the Municipality of East Hants. The following initiatives promote and facilitate AT in communities throughout Canada. They are interrelated and include a mix of physical planning, policy development, and program development. While some changes are long term, others can be implemented immediately. One of the benefits of AT is that it can be phased, and changes can have a positive effect immediately, and improve further as time and resources allow.

Beyond case studies, a number of examples of design/retrofitting standards and guidelines can be found below, that can provide ideas and tangible reasons for making physical, programming, and policy changes to improve AT.

## 5.1 Design Standards & Placemaking Guidelines

As a first step to ensure effective AT implementation, municipalities can create design standards and placemaking guidelines that inform the building of environments that enable AT. There are programs that combine planning theories, with design speculations and placemaking guidelines to create manuals for building cohesive communities.

The Complete Streets Movement is an example of a set of guidelines that can help municipalities, “ensure that transportation agencies routinely design and operate the entire right of way to enable safe access for all users”<sup>29</sup>. The *Municipalities for Green Mobility Manual* (MGM Manual), claims that the Complete Streets Movement, “[r]ather than building streets as roadways for vehicles, [...] demands that streets be places for all users”<sup>30</sup>. The focus of complete streets policy is to grant the right of way back to pedestrians, cyclists, transit users, and people with disabilities. All of these uses can coexist but safe and effective implementation requires some forethought in the form of guidelines and standards written into policy, and safety features and requirements such as signage and handrails.

Design standards can include speculations for trail and pathway design, and placemaking guidelines can provide direction for





wayfinding signage, and features such as landscaping, that can make AT usage more enjoyable. These standards and guidelines can refer to destination or node development, as well as trails and walkways themselves.

### 5.1.1 LEED Design Standards

LEED Standards encourage ecologically sustainable development, which in turn helps create communities that are more enjoyable for people of all ages. These standards are, in many cases, suited to an urban environment. However, many of the suggestions for bikeways, and destination points are equally applicable to the MEH. Standards for destinations, for example, which require that AT users have access to bicycle parking, showers, and change rooms upon arrival to a given place. Another important feature is the location of parking for vehicles being situated behind developments, rather than in front.

The LEED rating system for neighbourhood development is based on Smart Growth and New Urbanism principles, as well as green building and infrastructure<sup>31</sup>; "The intent is to promote healthful, durable, affordable, and environmentally sound practices in building design and construction"<sup>32</sup>. Of course, linkages between buildings, and the overall network of a neighbourhood is a major consideration throughout. Beyond bicycle storage and shower access, LEED standards include optimal design



speeds for safe pedestrian and bicycle travel, recommendations for diverse neighbourhood centers, sidewalk intrusion speculations, guidelines for reducing vehicular parking footprint, and recommendations on many more areas such as transit networks and effective street networks.

**Rationale:** Accommodations such as showers and bike storage facilities, encourage people to use AT because their needs are taken into consideration. Also, making people fight for dominance with automobiles in large parking lots, in order to access a given place, is dangerous and undesirable. Instead, letting pedestrians, cyclists, and people with disabilities have the right of way in accessing public spaces, commercial centers, and other services, makes for a more enjoyable and safe AT experience.

### 5.1.2 Multi-Use AT Route Design Standards

AT can take place both on and off road. On-road locations include roads, shoulders, or sidewalks, while off-road AT generally occurs beside water bodies or on trails<sup>33</sup>. On-road AT, which occurs on sidewalks or roads (etc.) needs additional planning to ensure safety. Multi-use trails can be created as part of existing or new subdivisions, business parks, and along roads and residential streets. There can also be multi-use trails on undeveloped land if clearing occurs.

The Brampton Pathways program provides in-depth design specifications for a multi-use path which, the *Planning and Design Guidelines* state, “are the backbone of the Brampton PathWays Network”<sup>34</sup>. These multi-use paths can be incorporated into the existing landscape, either along roadways, or in open space and parkland areas<sup>35</sup>. The *Planning and Design Guidelines* provides a detailed typology of different trail classes, along with implementation instructions, for trail surface types, and clearing and width standards, for each. Different trail classes have different functions and users. Sidewalks and boulevards can be either restricted to pedestrian use, or can be merged with bicycle lanes to create a mixed-use pathway.



**Rationale:** A multi-use, grade-separated trail can be implemented on road shoulders or sidewalks, to cater to the needs of cyclists, pedestrians, and other AT users, while also providing some safety from vehicular traffic.

### 5.1.3 Trail Implementation

The City of Kitchener, Ontario adopted a *Development Manual*<sup>36</sup> in 2009 to provide the specific processes for the design of community facilities throughout the city. Specifically, the manual sets out the role of developers in planning, designing, and constructing trails to municipally approved specifications. Developers are responsible for the installation of trails, specifically materials and testing, drainage, fine grading preparation for asphalt, asphalt surfacing, signage, gates, and vehicle controls. Trail planning, design, construction, and maintenance are embedded into the entire development process, specifically in:

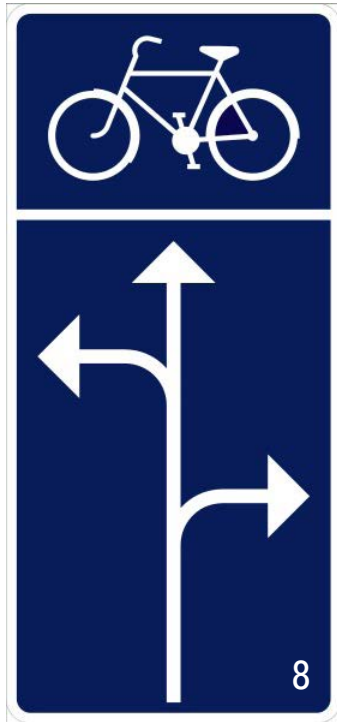
- requirements for draft plan subdivision;
- prior to or at the time of registration of the applicable stage of subdivision;
- within one year of registration of the applicable stage of development;
- during warranty period (two years); and
- final acceptance.



### 5.1.4 Wayfinding Signage for Active Transportation

Wayfinding signage varies from simple signs indicating a trailhead, or a bike route, to signs with detailed maps and tourist information. They can increase safety within trails and walkways by reminding users of important information such as trail direction. More rigorous signage campaigns, such as “Share the Road”, focus on bringing awareness to the responsibility that automobile users and AT users share responsibility in making streets enjoyable for everyone. Currently, much wayfinding signage is directed at drivers rather than pedestrians and cyclists; placing signage in areas for AT users can share information, as well as making the AT experience more interesting, clear, and fun.

The City of London, offers a variety of specifications and suggestions for many trail features including bridges, stairways, boardwalks, and barricades etc., in their *Parks Planning and Design Manual of Design Specifications*. An important part of these specifications is the regulation of signage within trails. They include a variety of categories of signage including designation/directional, regulatory, informational, interpretive,



and warning<sup>37</sup>.

**Designation/directional Signs** indicate route direction and type. They can be simple and straightforward, such as coloured markings along trees or sign posts. They can indicate the varying levels of difficulty on a given route.

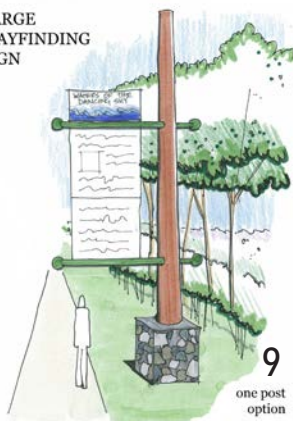
**Regulatory Signs** inform users as to restricted or prohibited activities.

**Informational Signs** provide generalized trail information, mark trailheads and entrances, and can include trail maps and information.

**Interpretive Signs** are educational and can be longer. They provide user with specific information such as history or facts. They can also be linked with some newer technologies to provide users with self-guided tours through the use of a smart phone.

**Warning Signs** bring attention to unsafe trail conditions or safety information.

LARGE  
WAYFINDING  
SIGN



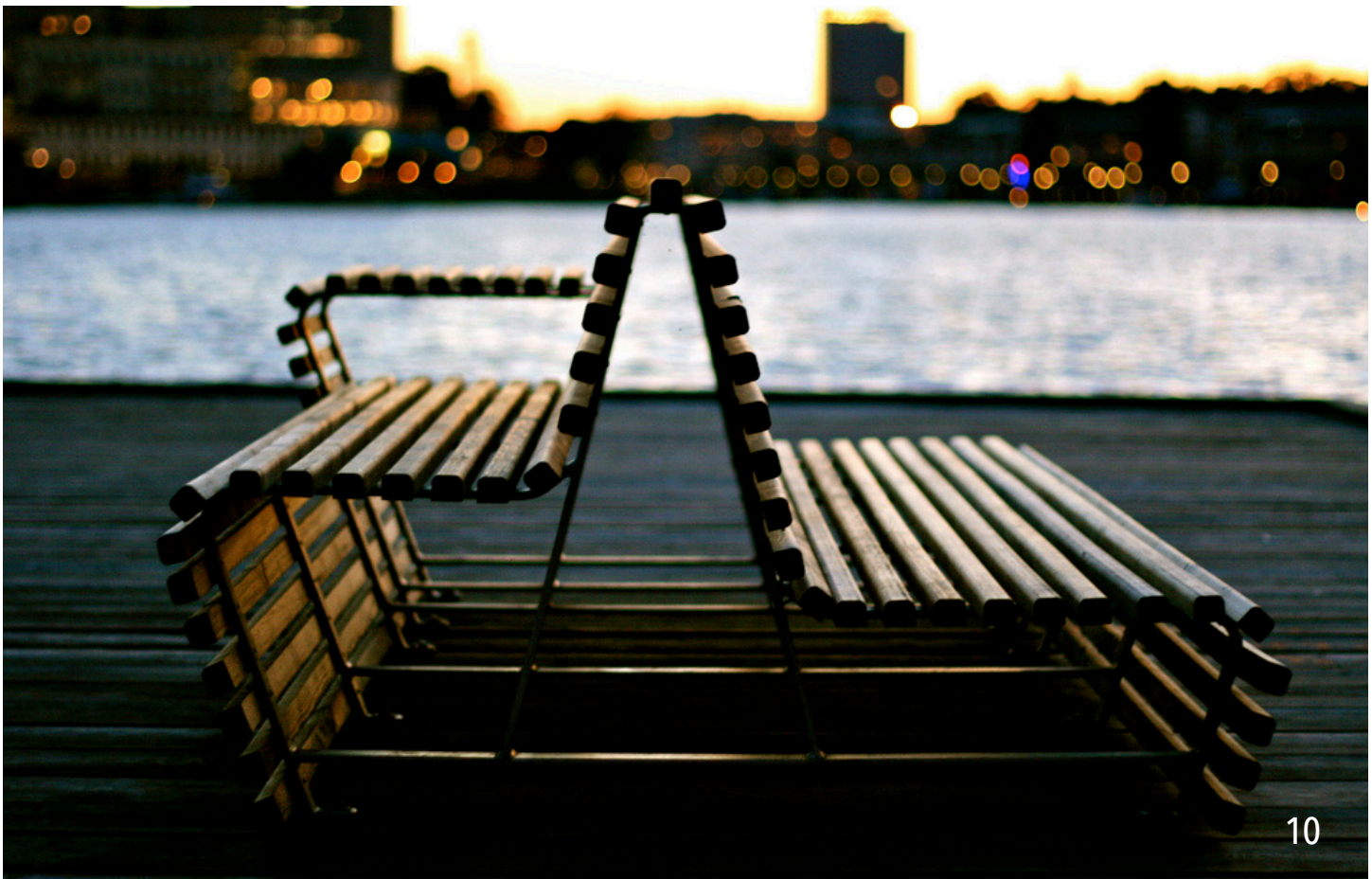
**Rationale:** Signage is not only utilitarian and can, “be a significant element of the city’s identity and character”<sup>38</sup>. Wayfinding signage can bring positive attention to communities and trail networks with minimal commitment and maintenance. They are also easy to implement, and can contribute to a first round of “Quick Wins”. Quick wins are Step 11 in the Ecology Action Center’s *AT 101 Manual*, and they are, “highly visible and low-cost investment infrastructure projects that do not take much time or energy to complete”<sup>39</sup>. These quick wins are also thought to build community morale and pride and keep momentum going in order to complete other parts of a project that may be more time consuming.

### 5.1.5 Street Furniture, Landscaping, and Bumpouts

Making communities more amenable to AT includes changes not only to dedicated AT infrastructure, but also to the areas connecting AT routes through landscape improvements and placemaking features. The City of London published *London Placemaking Guidelines* to inform the process of beautifying spaces as incentive for increased AT usage. Landscaping, for example, must be provided in, “public road right-of-ways, stormwater management facilities and public parks and open space linkages”, in order to, “contribute to the quality, connectivity, comfort, and safety of the pedestrian realm; provide summer shade and protection from winter winds; [and] define and enhance bicycle, pedestrian, and vehicular routes and accent entrances”<sup>40</sup>.

Features such as bumpouts and traffic calming street designs are also described. Bumpouts can cause drivers to slow down and can allow more room for activities aside from driving.

Other features, such as street furniture, are inexpensive and effective ways to encourage AT usage. Street furniture, “consists of on-street amenities including without limitation, street trees, lighting, weather protection elements, garbage receptacles, benches, newspaper boxes, transit stops, signage, screening of parking areas, public art, and other furniture”<sup>41</sup>.





Bumpouts are “place specific extensions of the public sidewalk or boulevard creating more substantial pedestrian zones and shorter road crossing” (*London Placemaking Guidelines*, pg. 131)

These features show citizens that they are taken into consideration as pedestrians, cyclists, and general AT users.

**Rationale:** Elements such as weather protection, public seating, and adequate lighting, make AT usage safer and more comfortable; that is, people are more likely to walk to work if they feel safe doing so.

## 5.2 Year Round AT Infrastructure

Snow removal policy can aid in making AT a reasonable choice year-round, by ensuring, for example, that snow removal along walkways, in front of community resources (such as mailboxes, etc.) occurs with regularity and in a timely fashion. A trail and walkway improvement program could upgrade all AT trails to a minimum standard, and require that snow removal extend to these trails.

The MGM Manual lists year-round trail and route maintenance as a requirement for AT; “lack of snow clearing on sidewalks and trails is a major impediment for pedestrians in the winter, especially for seniors, children, parents with strollers and people who utilize wheelchairs”<sup>42</sup>. During summer, spring, and fall, potholes and debris can impede cyclists<sup>43</sup>. They cite Boston, Massachusetts as an example of a city that prioritizes snow removal on sidewalks over roads and streets. The organization Walk Boston has

seven recommendations for improving winter maintenance for sidewalks. These include setting priorities, improving monitoring and enforcement, focusing on policy improvement, and aiding prevention through sidewalk design standards that make snow removal easier<sup>44</sup>.

**Rationale:** Regular maintenance including snow removal, street clearing, and infrastructure repair allows AT users to travel in all seasons safely.

### 5.3 Committees, Steering Groups, and Coalitions

The idea behind coalitions, steering groups, and committees, is to utilize resources that already exist within a given community. Involving community members and organizations in the process for creating an AT network can be a good way to generate commitment for active transportation in the area. Local committees that are already addressing physical activity can take over the AT initiative. Involving municipal, and provincial stakeholders can increase awareness, interest, and secure municipal buy-in. Local associations are well equipped to organise community social events, bike rides, festivals or even bike rental programs. Since youth can lack incentive for using AT, committees and steering groups could play a role in organizing events that stimulate greater motivation to consider AT.



The EAC *AT 101 Manual* discusses the *Kiernan Pathway Society* (KPS), an organization that aims to improve AT in an area very similar to the South Corridor in East Hants<sup>45</sup>. The Grand Pre-Coldbrook-Berwick Corridor in Kings County, NS, acts as a connector between a number of services, community resources, and two large residential areas. The KPS focuses on improving the unfriendly conditions of the roads in this area, and making a section of the Highway Act more as a major link for AT users between destinations, rather than an impediment<sup>46</sup>.



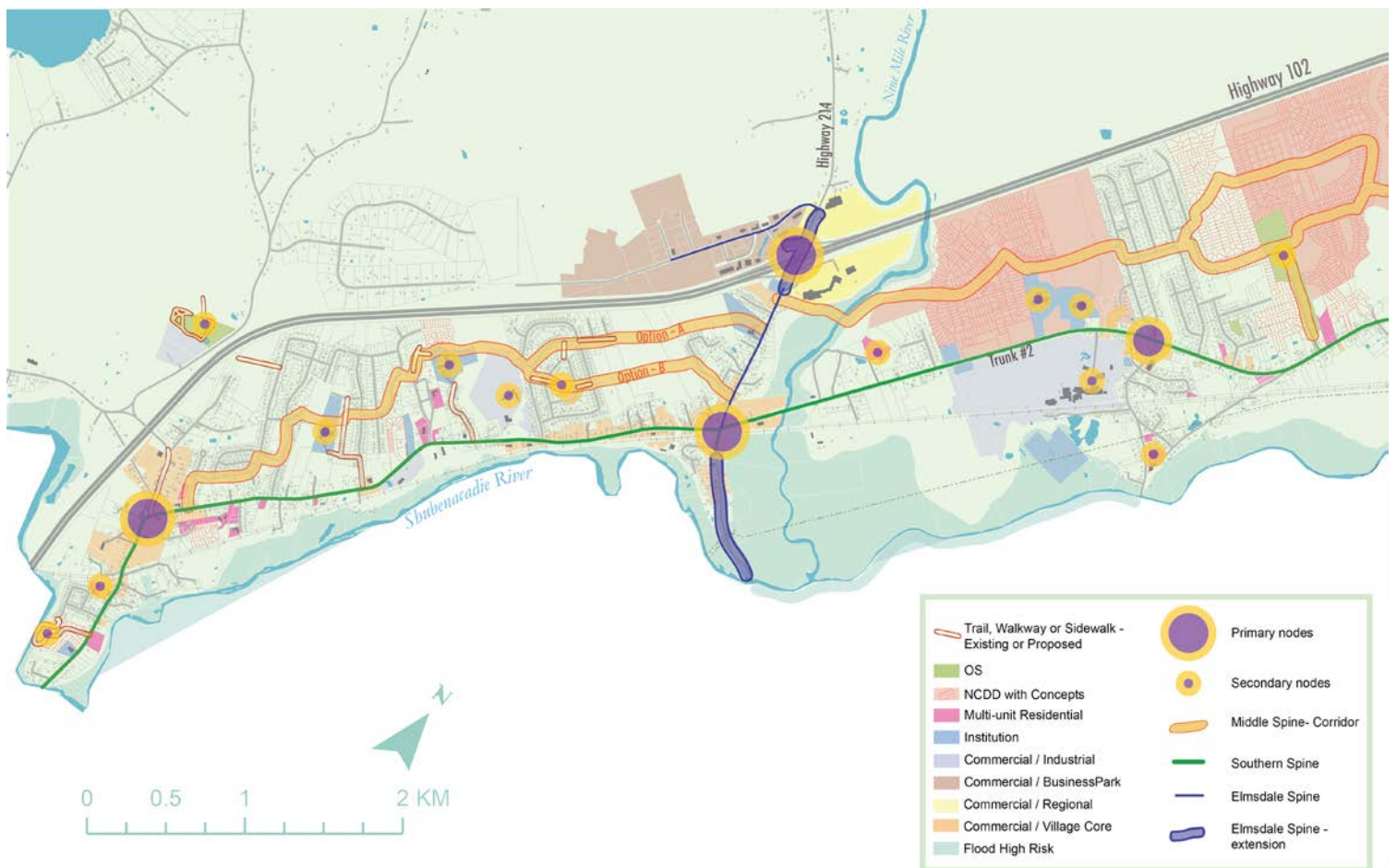
**Rationale:** Similarly to Kings County, East Hants has interested parties hoping to see AT usage increase in the area. Engaging interested individuals, including youth, can increase community pride, and involvement in other planning activities in the future. This change in attitude from feeling resigned to feeling engaged, can eventually lead to a change in culture and can make AT a more obvious and attractive choice.

## 6.0 Recommendations

1. Council should adopt the *South Corridor Active Transportation Strategy*, formally endorsing its implementation.
2. The Municipality should adopt the AT network map as the guiding framework for trail and node development in the South Corridor.

### Network

1. The Municipality should adopt a trail standard to align the intended function of each segment of the AT trail network with an appropriate design specification. This should be included in the Municipal Transportation Specification.

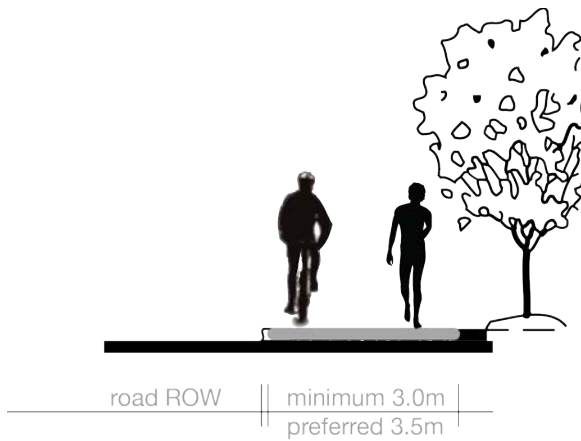


The above Conceptual Map features a visualization of future development patterns under the current development form. This map was created to illustrate how the possible implementation of the AT Network could work with the current development form. This map is not the one featured in the recommendation for adoption, but is simply an example of alternative options to the Open Space Design presented on pages 46 and 47 of this report.



### a. Primary Spine Standard

This standard is the highest order in the AT network and applies to the Middle, South, and Elmsdale Spines. The intended function of this class is to move high volumes of AT users between major destination points within and between the three communities. The trail should be paved, grade-separated from general traffic, and of a sufficient width to allow for bidirectional traffic for both cyclists and pedestrians along the entirety of its length. A painted line should be applied down the centre of the trail to provide a visual separation of pedestrian and bicycle traffic. All primary routes should be accessible by the mobility impaired and be illuminated at night.



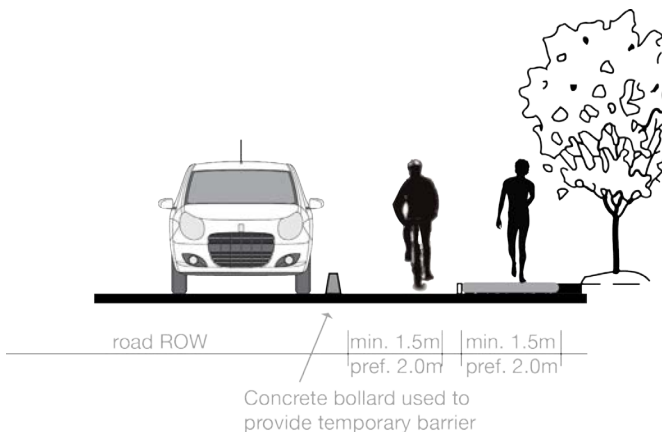
#### i. Primary Spine - On-Road

This standard applies to the on-road portions of the Middle Spine and the entirety of the Southern and Elmsdale Spine trails. Bicycles should be allocated the half of the trail abutting the road.



#### ii. Primary Spine - Greenway

This standard applies to off-road portions of the Middle Spine and is completely separated from vehicle traffic. Vegetation should be cut back to create a 3 metre high corridor for safe passage of cyclists. This typology would travel through a linear park system through residential areas, integrated with the existing park system.



#### iii. Primary Spine - Restricted

Roadways that has restricted sidewalk easement but with a generous road right-of-way can receive this treatment, with future road work being coordinated with an eventual conversion to the Primary Spine On-Road (i) standard. This standard is also appropriate as a low cost pilot project along roadways with an existing sidewalk to evaluate and demonstrate an eventual upgrade to the Primary On-Road standard.

b. Secondary Connector

The Secondary Connector standard is applied to trails that connect minor nodes and residential areas to the Primary Spine network. Like the Spine standard, these trails are multi-use, accommodating both pedestrians and cyclists. The width requirement is relaxed and the painted middle line is not required to reflect a reduced user volume. These trails are located both on and off road and have the same requirements as the primary spine in terms of asphalt surfacing, vegetation clearance, and wheelchair accessibility.

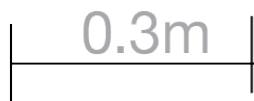
c. Tertiary Local Neighbourhood Route

The current road classification used by the Municipality establishes three classes of local roads with the primary purpose of dispersing motorized traffic to local neighbourhoods. The Tertiary Local AT standard should be thought of as overlaying this network where a Primary and Secondary trail does not exist. All AT users should feel comfortable from origin to destination. This class therefore applies to all local streets, particularly those without sidewalks. Qualities of a Tertiary Local route include basic traffic calming measures with the primary purpose being to slow traffic:

- Bumpouts
- Speed humps
- Narrowing, where appropriate

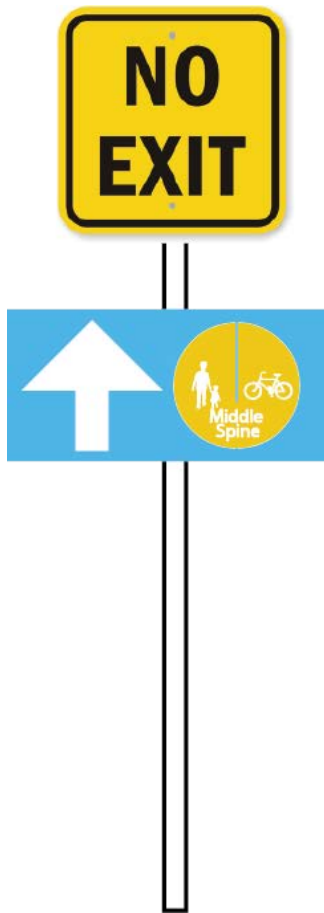
d. Road Crossings

Intersections with roadways should be designed to facilitate the safe crossing of AT users. Crossings at local streets should include a painted (yellow) crossing at trail grade—a speed table. This would satisfy the dual purpose of allowing AT users to cross the street without undue disruption caused by changing to street grade while also calming traffic with a similar effect of a speed hump. Crossings at arterial roads, such as Elmsdale Road and the Trunk 2, would be done through a solid paint application at the same width of the trail.



Speed Table





The distinctive look and feel of the wayfinding signage helps users distinguish between auto and AT wayfinding.

trail markings. All trails in the Primary Spine network should be appropriately branded throughout the system. Larger signs along the South and Elmsdale Spine will be visible to both pedestrians and road traffic along which the AT routes travel, thus increasing awareness among road users of the existence of the trail system. Directional wayfinding signage placed at trail intersections and along the length of the system will direct users to the major destination nodes via the AT network. Distances in kilometres are optionally posted on the signage to provide improved usability.

3. The Municipality should incorporate AT network snow clearing into their winter maintenance budget planning, placing high priority on clearing the AT network after major snow events.
4. The Municipality should require that all new residential developments incorporate trail development through development agreement, guided by the AT Network Map. The network should be embedded into the development process from proof of subdivision to final acceptance.
5. The Municipality should develop an investment strategy to retrofit the existing links of the AT network to bring it up to the aforementioned design standards.

#### **Nodes**

1. The Municipality should design the Village Cores of Enfield, Elmsdale, and Lantz to be supportive of AT, as detailed in the *Village Cores Plan*.
2. The Regional Centre and Business Park in Elmsdale is a significant employment and shopping destination in the area and is expected to accommodate much of the larger scale commercial and industrial growth in the municipality. In the planning and design of these growth centres, the Municipality should incorporate urban design principles to improve the connectivity of these centres to the larger network as well as to facilitate AT movement within.
  - a. The Municipality should encourage all new and existing commercial and industrial developments to incorporate AT supportive elements into site, including:
    - bicycle storage and repair facilities
    - showers for employees
    - reduced road frontage with parking at rear

## More Funding Opportunities

### Federal Gas Tax Fund

With the completion of the ICSP, East Hants is eligible to collect a portion of the gas tax fund for AT initiatives.

### Other Sources

There are an abundance of resources available to the Municipality—public health, NSTIR, local businesses, etc.—to realize the full potential of the AT strategy. These are outlined in detail in the *Implementing an Active Transportation Plan* section (Part C) of the Ecology Action Centre’s AT report.

- walkway and bikeway connections to the roadway

b. The Municipality should move to implement a pilot project within the Elmsdale Business Park, upgrading Park Road to the Primary Spine - Restricted standard.

c. The Municipality should incorporate the AT elements outlined above at its Elmsdale Court property and other municipal properties. This would demonstrate the Municipality’s commitment to the goals of this strategy.

3. The Municipality should prioritize the existing Village Cores, Regional Centre, and Business Park when siting new public facilities.

## People and Programmes

1. The Municipality should facilitate the creation of an active transportation steering committee to act as a steward of the AT plan and to strengthen strategic partnerships. Specifically, the steering committee will oversee the implementation and continued improvement of this AT strategy through ongoing public outreach and act as an advocate and liaison between the Municipality, provincial government, business community, and the community to ensure all partnerships are leveraged to enact change. The committee should meet regularly and be composed of representatives from local community organizations, councillors, municipal staff, members of the business community, and relevant provincial officials.

Members:

- Planning and Development (MEH)
- Recreation and Culture Services (MEH)
- Infrastructure and Operations (MEH)
- Economic and Business Development (MEH)
- Public Health (Province)
- Trails Organizations
- RCMP
- Local Business Owners
- Youth, persons with disabilities
- Councillors for Enfield, Elmsdale, Lantz
- Nova Scotia Department Transportation of Infrastructure Renewal (NSTIR)

## Funding Opportunities

### Nova Scotia Moves Grant

The Nova Scotia Department of Energy offers grants of up to \$200,000 to support community-led sustainable transportation initiatives, covering up to 50% of eligible costs. Proposals are evaluated according to seven criteria: (1) focus on sustainable transportation initiatives; (2) Impact; (3) Innovation; (4) Engagement and Partnership; (5) Capacity and Sustainability; (6) Leverage; (7) Timing. This AT Strategy, if adopted, satisfies all of the above criteria. The Municipality can leverage significant resources from this grant programme for years to come.

## 7.0 Demonstrations



In order to contextualize the final recommendations, a number of design demonstrations were completed. In these demonstrations a number of recommendations are presented visually. The recommendations show what it would look like to enable the development of a fully integrated AT network. These demonstrations cover a range of different situations common throughout the South Corridor to provide guidance for other locations with similar characteristics.

The demonstrations include:

1. Retrofitting suburbs to establish an integrated AT corridor. Our example straddles an older and newer residential area in Enfield;
2. Connecting two spines, and rehabilitating existing infrastructure to raise AT user confidence in high traffic areas;
3. Retrofitting a node which has been designed for vehicular use, to accommodate AT users more effectively. The North Elmsdale node was described as being highly problematic both by MEH staff and in the public consultation sessions;
4. Creating opportunities for bike paths on existing sidewalks. Establishing a Southern Spine along the Trunk 2; and
5. Envisioning alternative residential developments in the large land parcels or in any location which is zoned a CDD;

# Demonstration 1 - suburban retrofit



- Elmsdale spine signage
- Middle spine signage
- Southern spine signage
- General AT signage
- AT stop sign
- Cross walk without speed table
- Cross walk with speed table
- Middle spine lighting

Older suburbs feature a number of informal connections which seek to remedy the lack of direct connections. These informal connections are fragmented and are in need of upgrading, particularly to facilitate bike riding. The process to complete this upgrade to the point where the Middle Spine can be established, will require a multi-faceted and phased approach. The most important tasks to complete are as follows:

1. Wayfinding. An immediate and low-cost remedy to disconnected trails, walkways and roads. This would also help raise the status of AT in these communities.
2. Establish an AT steering committee. This committee should advocate on behalf of the community to developers, and land owners (private, corporate and public) to provide more formal public access in order to establish an AT corridor for the Middle Spine.
3. Implement suburban retrofits, like upgrading or installing sidewalks, walkways and trails in accordance with the AT Investment Strategy.

# Demonstration 2 - spine connection -

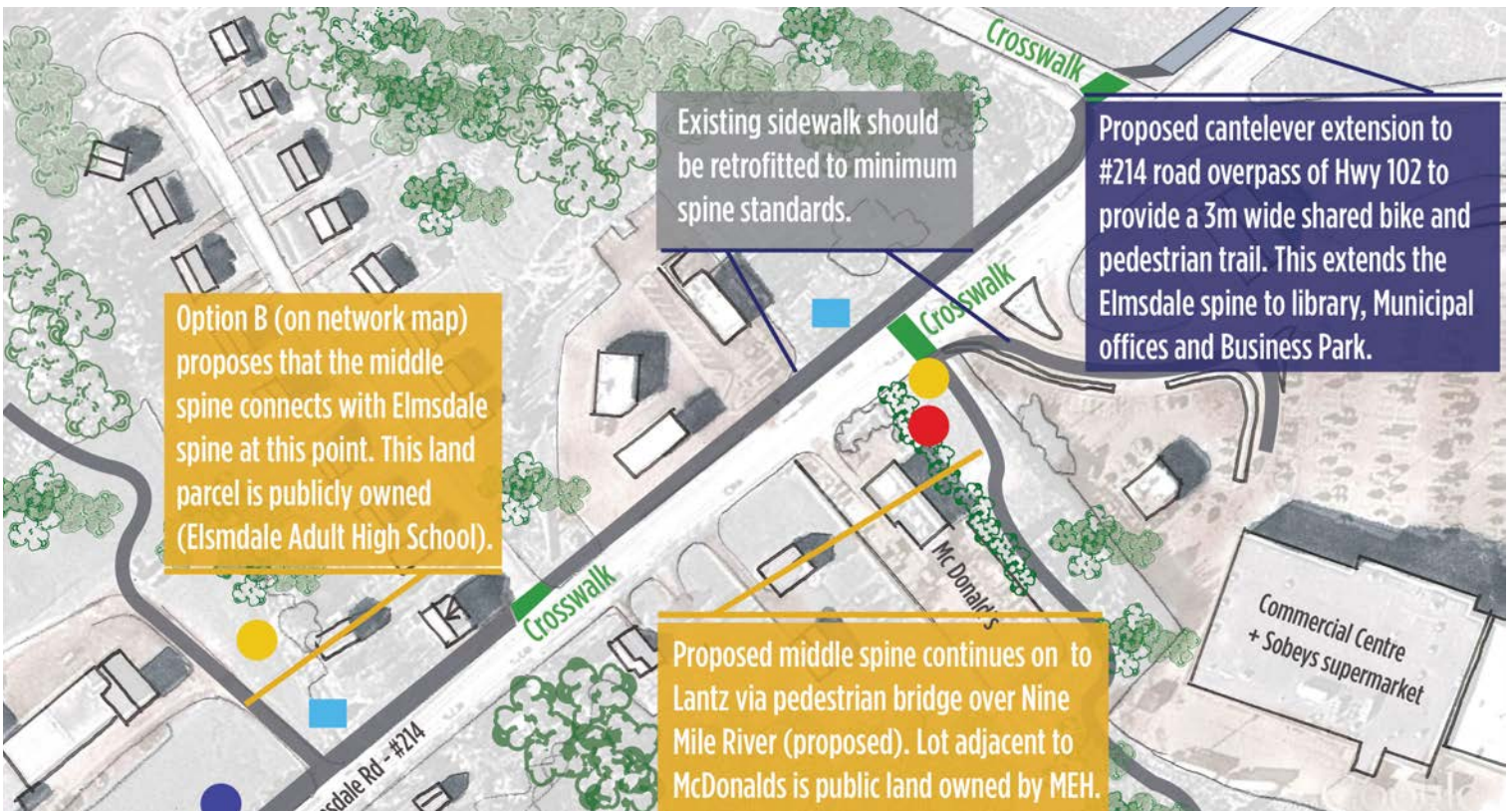
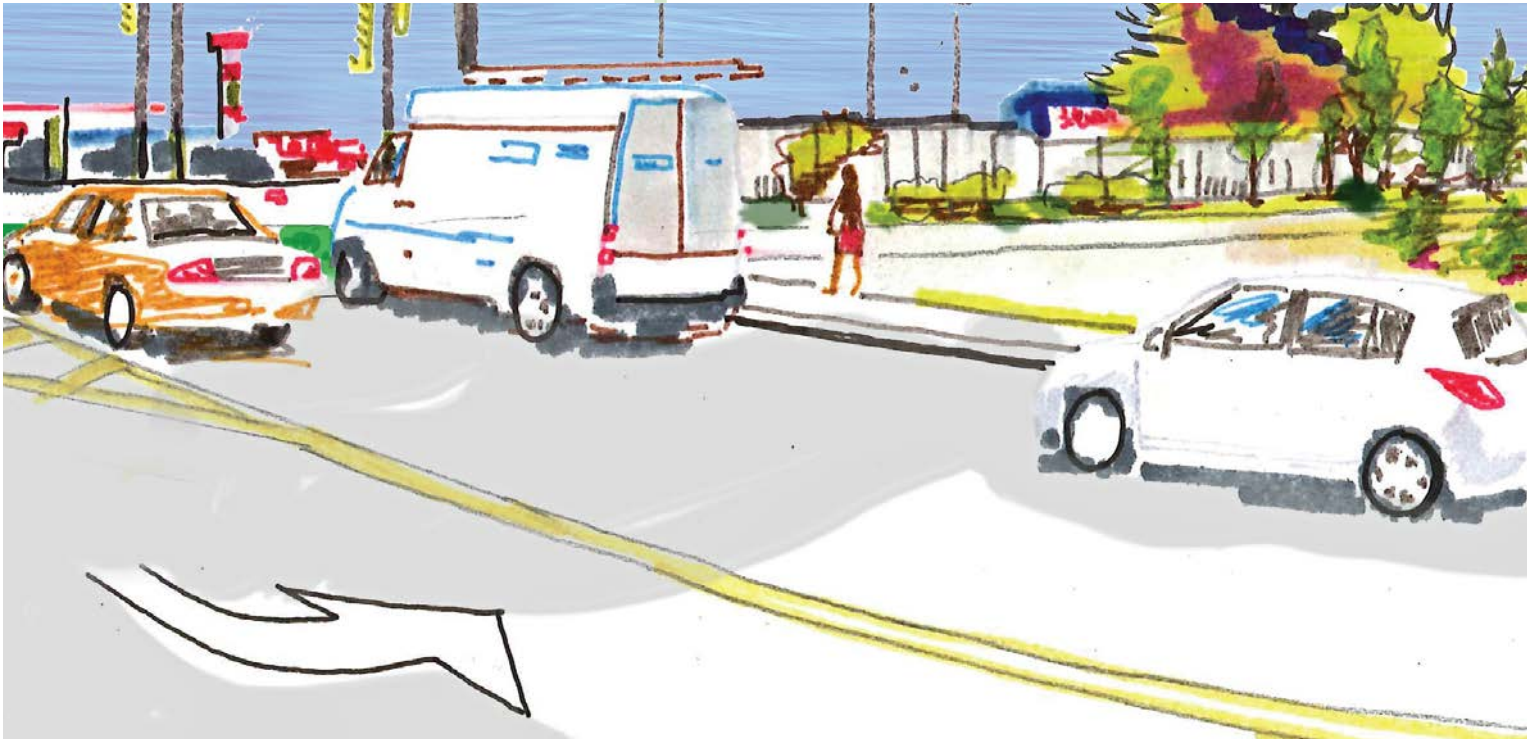


To develop an effective AT network, destination points, or nodes, need to accommodate AT use by providing storage facilities, and ensuring the safe mix of AT with other modes of transportation. AT and vehicular traffic volumes are higher at destination points, so road markings, crosswalks and signage need to be clear to drivers and AT users. The present condition of some markings has deteriorated over time. In addition, crosswalks need to be more substantial than double white lines. In-line with best practices, we propose at minimum a vivid green area demarcating the crosswalk zone.

Nodes can also be locations where two or more AT spines connect. Adequate wayfinding signage and safety signage provides greater clarity to the AT user.



# Elmsdale retail plaza



● Elmsdale spine signage	● AT stop sign
● Middle spine signage	■ Cross walk without speed table
● Southern spine signage	■ Cross walk with speed table
■ General AT signage	● Middle spine lighting



# Demonstration 3 - node retrofit



Each of the nodes in the South Corridor have individual characteristics, therefore each requires careful consideration to better accommodate AT. This particular node was presented as being highly problematic by both the community and the Municipality. To fully remedy the situation, substantial infrastructure could be required, such as a cantilever pedestrian bridge off an existing overpass. Such a capital project would involve a number of partners outside the MEH and implementation may occur over a longer length of time.

1. Establish an AT steering committee. This committee can advocate, and find partners and funding opportunities for the cantilever bridge project.
2. Implement retrofits to community owned facilities—Commerce Court—including bike parking facilities and a secondary trail linking Park Road to Elmsdale Road.
3. Clarify crosswalks and provide AT wayfinding and safety signage.
4. Undertake a bike-lane pilot project along Park Road. The road width in this location can easily accommodate a bike lane, so it is possible for this pilot to occur quickly, and inexpensively. It could greatly improve business park layout, and enable employers and employees to use AT to travel to and from work as well as within.

# Demonstration 4 - Southern Spine



The extensive sidewalk is already an AT beacon within the South Corridor. MEH staff have noticed an increase in pedestrian activity since the sidewalk was developed; however, bike riding along this arterial still needs to be accommodated. Creating a bike lane along the road shoulder is not at present considered an option. This is due to the fact that in some places the road shoulder is too narrow to accommodate a two-way bike lane; additionally, the proximity of this location to heavy vehicles may still cause bike riding to be unsafe.

We propose widening the existing sidewalk by removing the grass verge between the sidewalk and the roadway. Any additional width, up to spine standard, should be developed where possible. The sidewalk can be designated a trail, thus making possible bike and pedestrian use. Signage, as already discussed, provides valuable wayfinding information but will also increase awareness of this spine of the AT network. This increase in status will motivate the community to take advantage of this new infrastructure.

# Demonstration 5 - Greenway concept



- Elmsdale spine signage
- Middle spine signage
- Southern spine signage
- General AT signage
- AT stop sign
- Cross walk without speed table
- Cross walk with speed table
- Middle spine lighting





The Greenway concept features a linear, contiguous park which encloses a shared trail separated from the road network. In the case of the South Corridor this would be the Middle Spine. Such trails provide interesting opportunities for quiet moments for repose, interesting pocket parks for play, but most importantly a continuous AT network that is safe for AT users of all ages. Where the trail does intersect with roads, clear crosswalks are provided with speed tables.

Developers can count land parcels required for such a network toward the MEH parkland designation requirement within subdivision development. This strategy recommends policy amendments to ensure that the location of future parkland designations will align with routes proposed on the AT Network Map.

## 8.0 Policy Amendments

The policy amendments that would accompany a full adoption of the above recommendations would mainly occur as amendments to the current *Municipal Planning Strategy*. Specifically, a new section titled “Active Transportation in the South Corridor” is appended to Section 10, Transportation and Subdivision. As outlined in the Section 3 – Policy Context, there are many policies that currently support the adoption of the AT network proposed above. The following amendments therefore serve to elaborate on many of the existing policies but in the context of AT in the South Corridor.

### **Append: 10.6 Active Transportation in the South Corridor**

As identified earlier in this section, Council has identified a well-connected system of trails and greenways connecting communities in the corridor as a priority. The South Corridor is the most heavily populated area of East Hants with a very young demographic in comparison with the rest of Nova Scotia. The appetite for effective active transportation options is therefore present and thus it is Councils intention to act on this in a meaningful way. The policy directions taken in this section will serve to realize this goal.

### **Adopting a Strategy, Network and Typology for the South Corridor**

#### Policy Goal

It is the intent of council to systematically improve the AT trail network through the South Corridor. This shall be achieved by adopting a single AT Network Map and accompanying trail typology that reflects AT vision of the Municipality.

#### Policy Statements

P10-xx Pursuant to P12-18, Council shall adopt the report An Active Transportation Strategy for the South Corridor as the primary guide to the development of the AT network in Enfield, Elmsdale, and Lantz.

P10-a Council shall adopt the AT Map (Pages 46 & 47: AT Network Map) to guide AT development in the South Corridor.

P10-b Council shall ensure that all existing and proposed AT routes be classified and maintained on the basis of their function and design.

The network shall include three classes of public AT trail typologies:

#### a. Primary Spine

Function

- i. To carry high volumes of AT users
- ii. Acts as a connection between nodes across communities
- ii. Accommodates uninterrupted longer-distance travel at reasonable speeds, particularly for bicycle traffic, while accommodating the lower speeds of other AT network users.

### b. Secondary Connector

#### Function

- i. To carry moderate volumes of AT users
- ii. Connects subdivisions and some secondary nodes to a Primary Spine

### c. Tertiary Local Neighbourhood Route

#### Function

- i. Provides access to residential areas
- ii. Connects AT users to the Secondary Connectors and Primary Spines
- iii. Local traffic.

P10-d Council shall amend the *Municipal Transportation Specifications* to include the design specifications for AT network hierarchy based on the guidelines outlined in the Active Transportation Strategy for the South Corridor.

P10-c Council shall require that the design of new trails respect the AT network hierarchy.

P10-g Council shall adopt a phase-in strategy for the upgrade of existing links of the network

## **Priorities for the Middle Trail**

### Policy Goal

The middle trail, represented on the AT Network Map, provides a direct, mid-way connection between major residential developments—existing or proposed—and major nodes within the South Corridor. It provides a relieving contrast to the traditionally curvilinear and disconnected nature of the street network by providing a high quality AT route. The route is direct and safe, running on a separate right-of-way, sometimes completely removed from road traffic in a linear park. It shall be Council's priority to develop this corridor in a coordinated way.

### Policy Statements

P10-e Council shall ensure that the Middle Trail is made a top priority in all new development in the region.

P10-f Pursuant to P5-36 and P10-26, Council shall require that all new development proposals for the Neighbourhood Comprehensive Development District Zones incorporate the Middle Trail without unreasonable variation from the AT Network Map. Plans shall, in particular, denote the following to gain approval:

- a. Adequate right-of-way, as per the *Municipal Transportation Specifications*;
- b. Design with reasonable access to the trail using the Secondary Connector standard; and

c. All trails designed to the *Municipal Transportation Specifications*. P10-o Council shall require that all developers within the NCDD Zone be responsible for the construction of all AT network infrastructure. This shall be a condition of final acceptance.

P10-z Pursuant to P4-44, Council shall consider a Primary or Secondary trail running along a subdivision road as sufficient to satisfy the sidewalk requirements outlined in P4-44.

P10-w Pursuant to P-36(d), council shall accept the land area allocated to the Primary Spine Greenway right-of-way to satisfy the parkland dedication requirements provided for under the *Municipal Government Act*<sup>47</sup>.

### **Priorities for the Southern and Elmsdale Spine Trail**

#### Policy Goal

The South Spine forms the second major east-west connector with the Elmsdale Spine forming the only major north-south connector. It is Council's intent to prioritize the enhancement of the existing AT network to be brought up to the Primary Spine standard.

#### Policy Statements

P10-h Pursuant to P10-g, Council shall create an investment plan to upgrade the existing sidewalk along the Trunk 2 and Elmsdale Road to the Primary Spine standard.

P10-i Council shall work with the Nova Scotia Department of Transportation and Infrastructure Renewal to re-designate the sidewalk to "trail" status, as per Section 171A(a) of the Motor Vehicle Act<sup>48</sup> to allow for bicycle usage on multi-use trails.

P10-u Council shall specifically consider extending the Elmsdale Spine north across the Highway 102, connecting the rest of the network to Commerce Court and the Elmsdale Business Park.

### **Priorities for the Business Park (C8) and Regional Commercial (C4) Zones**

#### Policy Goal

In order to attract high-quality employers and retailers to the Municipality, the formation of a business park and regional commercial centre is essential. Equally important is how the areas are designed to accommodate alternatives to the automobile. It shall be council's intent to guide future development of these centres with sound urban design principals that support AT both movement within the areas themselves, and externally to the rest of the AT network.

#### Policy Statements

P10-ee Pursuant to P9-78 and P-9-40, Council shall require AT supportive infrastructure, such as bike racks, be addressed through the site plan

approval process of developments in the Regional Commercial (C4) and Business Park (C8) Zones.

P10-cc Council shall initiate planning and building for the upgrade of Park Road in the Business Park (C8) Zone to Primary Spine – Restricted standard, as per the *Municipal Transportation Specifications*.

P10-tt In siting new public facilities – such as a skate park, swimming pool, or curling arena – Council shall prioritize the Business Park (C8), Regional Commercial (C4), and Village Cores (C6) as their preferred location, followed by the Secondary Nodes identified in the AT Network Map.

P10-rr Council shall initiate and fund a retrofit of the existing Municipal Building in Elmsdale Court with AT supportive elements.

## 9.0 Implementation

Action	Who/How	Time Frame	Cost
Adopt AT Strategy and accompanying policy	Council	Immediate	Low
Establish AT Steering Committee	Staff, in collaboration with local partners	Immediate	Low
Formalize trail typology into <i>Municipal Transportation Specifications</i>	Infrastructure and Operations	Immediate	Low
Install wayfinding system throughout the existing network	Infrastructure and Operations	Short-term	Medium
Install AT retrofits to community owned facilities, specifically Commerce Court	Infrastructure and Operations	Short-term	Medium
Implement Business Park pilot project	AT Committee, Infrastructure and Operations	Short-term	Medium
Develop Investment Strategy to retrofit existing AT network to standard	AT Committee, Staff	Short-term	Low
Retrofits: Phase 1	Infrastructure and Operations, NSTIR	Short to medium-term (determined by Investment Strategy)	Medium to High
Retrofits: Remaining	Infrastructure and Operations, NSTIR	Medium to long-term	High



# East Hants

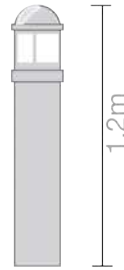
## Design Standards

*Active Transportation Strategy,*

Middle-Spine Lighting.  
Solar powered bollards

Middle-Spine Wayfinding  
Install at a height of 1.5m

Southern-Spine Wayfinding  
Install at a height of 1.8m

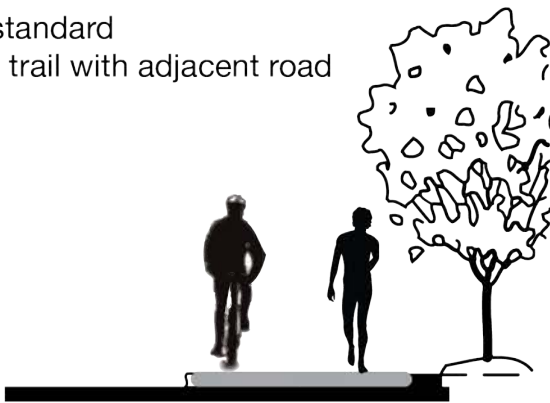


0.3m



0.45m

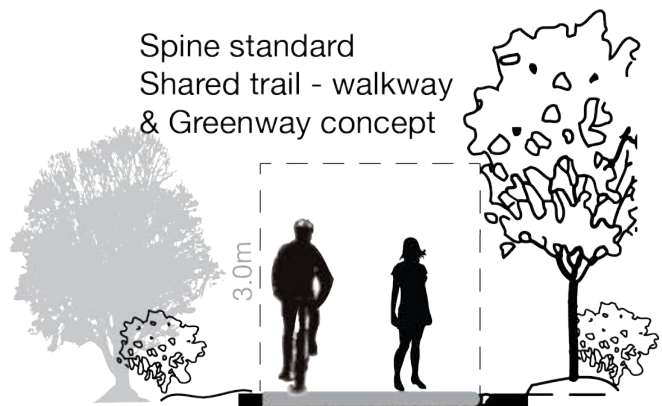
Spine standard  
Shared trail with adjacent road



road ROW || minimum 3.0m  
preferred 3.5m

create landscaping  
where possible

Spine standard  
Shared trail - walkway  
& Greenway concept

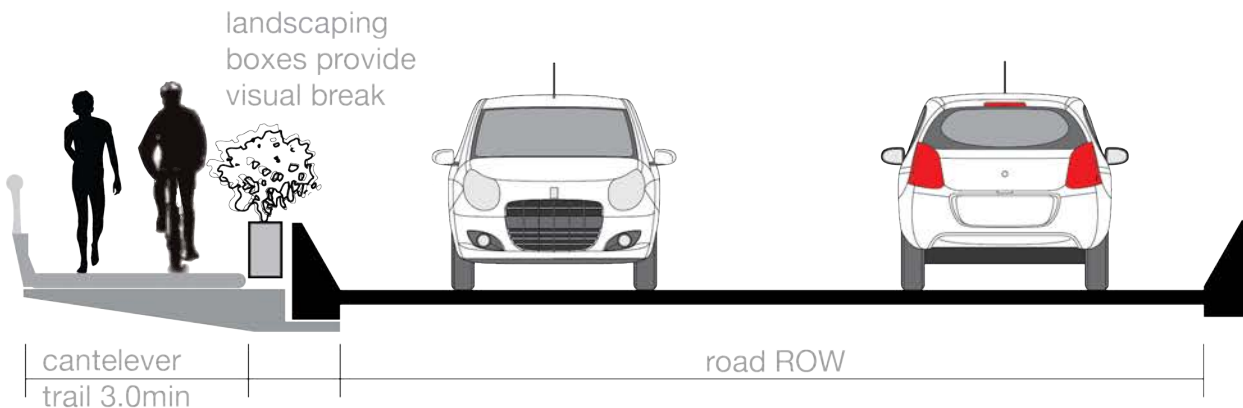


3.0m

minimum 3.0m  
preferred 3.5m

Route 214 - overpass

Cantelever pedestrian bridge



landscaping  
boxes provide  
visual break

cantelever  
trail 3.0min

road ROW

**Elmsdale-Spine Wayfinding**  
Install at a height of 1.8m



0.45m

**AT network - Stop Sign**  
Install at a height of 1.5m

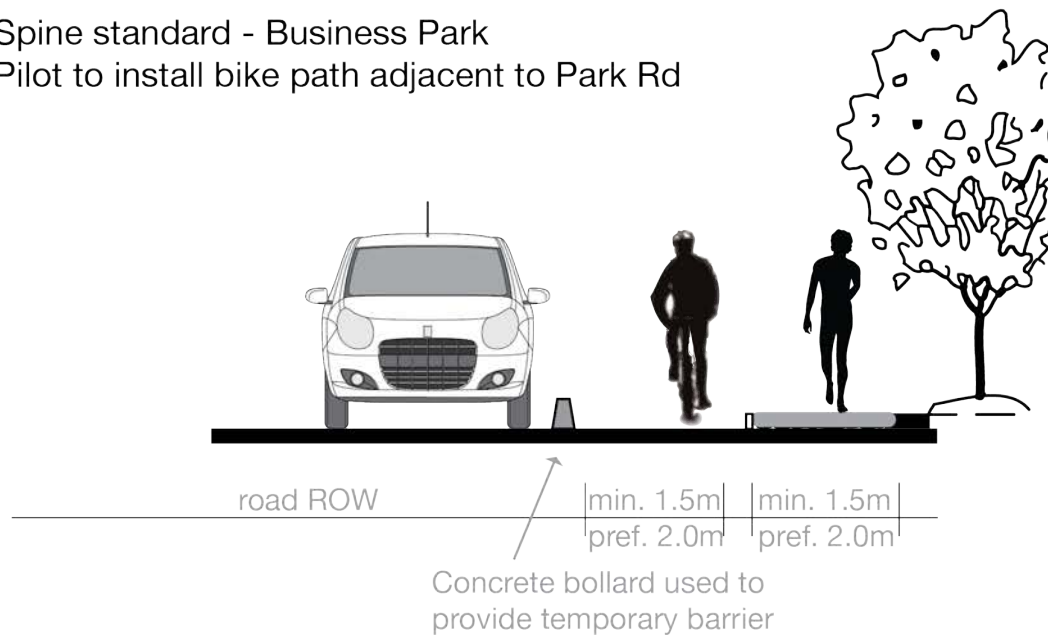


0.3m

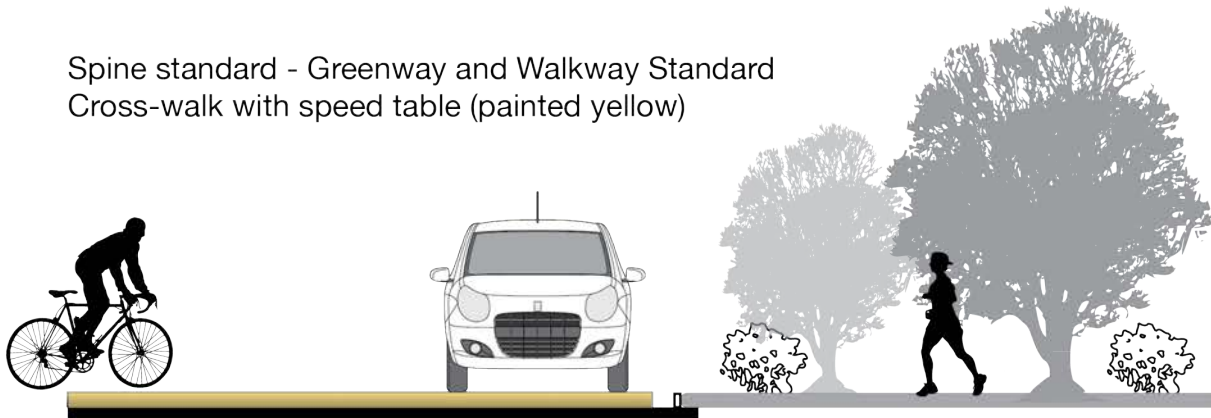
**General AT Wayfinding**  
Install so that mid point of sign is 1.2m above ground level



**Spine standard - Business Park**  
Pilot to install bike path adjacent to Park Rd



**Spine standard - Greenway and Walkway Standard**  
Cross-walk with speed table (painted yellow)



## 10.0 Appendix

### 10.1 Community consultation methods

Two community consultation sessions were conducted for this project. One session was for adults and the other for youth. For the first session participants were found largely by contacting interested community organizations and citizens. This recruitment yielded 19 participants. The second session was held during a Housing and Design course at Hants East Rural High, and consisted of 28 students.

#### Preparation and materials

##### *Session 1*

Adult participants were asked to complete a survey indicating travel behaviour, perceived opportunities and barriers for AT, and suggestions for improving existing infrastructure to accommodate increased AT usage. After the survey participants we asked to participate in a community specific visioning activity that was intended to identify linkages (formal or informal) between services and destinations, barriers to AT, and possible solutions, at a more focused scale.

##### *Session 2*

Youth in the classroom were from communities other than our mandated scope so we decided that the site specific surveys would be exclusive and restrictive. We opted, instead, for a cognitive mapping approach to have participants identify their destinations, ways of travel, travel frequency, and usage. We also led discussions to identify their perceptions of the possibility and potential for increased AT opportunities in their communities.

### 10.2 Budget

The Sidewalk budget for 2013-2014 financial year was \$111,800 which was increased up from \$98,500 from the previous year. Snow removal constitutes 76% of this amount and is valued at \$85,300 for 2013-14.

The *Open Space Management Strategy* (OSMS, 1999) has determined that the majority of trails in East Hants are informal. It identifies disused train lines, utility access and logging roads as being exemplars of such informal networks. While some trails have the knowledge and permission of owners many trails are used without such permission.

Very few trails in MEH are widely known this fact is reflected in the OSMS (1999) and from residents in our community Consultation. Appropriate signage can generate greater visibility on the location of these trails particularly at trailheads and major junctions. Signage can also help to distinguish between formal/informal trails, public and private property, and trails or walkways.

The OSMS (1999) identifies the South Corridor, the communities of Enfield, Elmsdale and Lantz as being distinct from the rest of the Municipality which

has much more of a rural character. This strategy identifies the Middle Trail as a priority for future development.

New trails should follow the guidelines as determined by the report *Developing Recreation Trails in Nova Scotia*.

## Endnotes

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- <sup>2</sup> Thrive Nova Scotia. (2012). *Thrive! A Plan for a Healthier Nova Scotia*. Province of Nova Scotia, Department of Health and Wellness. Retrieved from, [http://www.doctorsns.com/site/media/doctorsns/Thrive\\_plan.pdf](http://www.doctorsns.com/site/media/doctorsns/Thrive_plan.pdf), pg. 53
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- <sup>14</sup> Community Counts, (2011).
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- <sup>17</sup> Municipality of East Hants. (1999). *Open Space Management Strategy*. Retrieved from <http://www.easthants.ca/content/recreation-and-culture>
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<sup>22</sup> Thrive Nova Scotia. (2012), pg. 8

<sup>23</sup> Ibid.

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<sup>29</sup> Cities and Environment Unit. (2010). *Municipalities for Green Mobility: A guide to action on sustainable transportation for Nova Scotia*. Retrieved from, <http://www.ecologyaction.ca/content/municipalities-green-mobility>, pg. 34

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<sup>31</sup> Congress of New Urbanism, Natural Resources Defense Council, & U.S. Green Building Council. (2012). *LEED 2009 for Neighbourhood Development*. Retrieved from, [http://www.cagbc.org/AM/PDF/LEED%202009%20for%20ND%20with%20Canadian%20ACP\\_final\\_HR2.pdf](http://www.cagbc.org/AM/PDF/LEED%202009%20for%20ND%20with%20Canadian%20ACP_final_HR2.pdf), pg xii

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<sup>39</sup> Ecology Action Center. (2011), pg. 36

<sup>40</sup> Office for Urbanism & MMM Group. (2010), pg. 122

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<sup>42</sup> Cities and Environment Unit. (2010), pg. 38

<sup>43</sup> Ibid.

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<sup>47</sup> Municipal Government Act, c. 18, s. 1. (1998). Retrieved from, <http://nslegislature.ca/legc/statutes/muncpgov.htm>

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