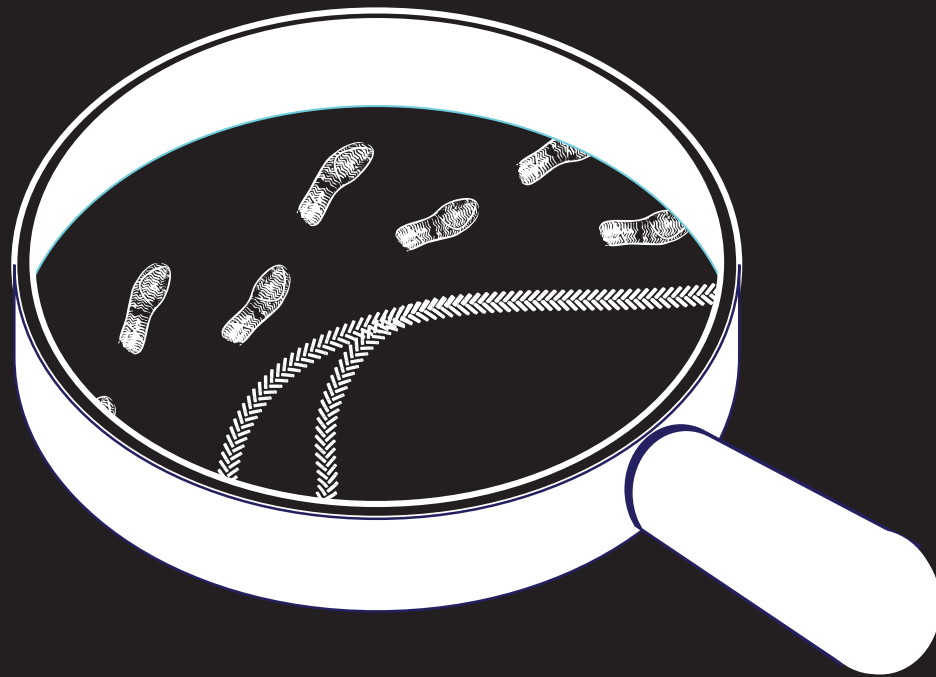


MUNICIPALITY OF EAST HANTS ACTIVE TRANSPORTATION NEEDS ASSESSMENT



FINAL REPORT PREPARED BY CITIES + ENVIRONMENT UNIT

FOR THE MUNICIPALITY OF EAST HANTS

MAY 2014

Acknowledgements

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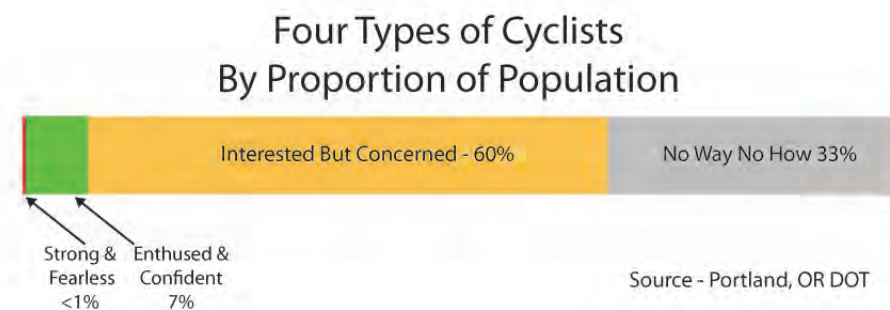
1. INTRODUCTION

THE CASE FOR ACTIVE TRANSPORTATION

The design and layout of streets, commercial shopping areas and housing subdivisions coalesce to form the built environment. Planners, designers, city leaders and communities are increasingly looking at how the built environment influences the way people move around their community and their ability to lead healthy lifestyles. Communities across Nova Scotia are recognizing that the design of the roads and streets impacts the transportation behavior of residents. Consequently, many communities are exploring how the design and development of new roads as well as the retrofitting of existing roads could encourage a greater variety of transportation options. Communities that support more walking or bicycling (Active Transportation) are increasingly places that are viewed as desirable for young families and for older residents to age in place by supporting independence later in life. There is growing support for Active Transportation (AT) as a tool for building healthy and desirable communities.

THE OPPORTUNITY FOR ACTIVE TRANSPORTATION

The Municipality of East Hants (MEH) has chosen to explore opportunities for improving Active Transportation to encourage active living and sustainable transportation. Although the current planning and design of streets in many rural communities like East Hants is automobile oriented, there is a growing body of research that points to a large group of people who would cycle or walk but feel unsafe under the current circumstances.



It is critical to build Active Transportation infrastructure to encourage AT for commuting or discretionary trips among those who are interested but concerned. People are far more likely to walk or cycle for short trips if they have a bike lane or sidewalk to use (Winters, 2008). Research has shown that a connected network of pedestrian and bicycle infrastructure routes allows AT to be a viable option for many

trips. Current research shows that trips of approximately 5 km or 30 minutes in duration are the most likely to attract potential cyclists, based on their competitiveness with the automobile (Teschke, 2011). For pedestrians, a comfortable walking distance is 400-500 metres (or approximately 7 minutes in duration) (Walker, 2011). Based on these standards and the growing recognition of AT as a tool for municipalities to improve livability, it is crucial to understand what opportunities exist for improving walking and cycling. This Needs Assessment will examine four routes within the Municipality of East Hants to understand the current challenges and opportunities for walking and cycling.

AT POLICY

The creation of communities and streets that are supportive to walking and cycling does not happen by accident. Healthy built environments are the result of policies, plans, and design guidelines that support staff, council and the community in their work towards creating more active and healthy environments. It is critical that East Hants begin to create a policy framework to support the creation of more walkable and bikeable communities with street designs that support AT. This Needs Assessment report will provide a basis for developing municipal policy around AT in the upcoming Municipal Planning Strategy Review in 2014. AT policies will enable the Municipality of East Hants to work with the Province in efforts to encourage more pedestrian and bicycle friendly Village Cores in Shubenacadie, Enfield, Mount Uniacke, and the Highway 214 corridor. A clear vision for how AT supports broader municipal goals will strengthen discussions with the provincial government and Department of Transportation and Infrastructure Renewal. Policies could range from the inclusion of sidewalks and trails in future subdivisions to the long-term goal of sidewalks in the Village Cores.

Land use planning and settlement patterns have a major impact on the viability of walking and cycling. More compact communities make it more practical for residents to walk and cycle regularly, as people live closer to where they work, shop, and play. The decision to support AT must be seen as a choice that affects how various departments work together to create communities that support walking and cycling.

WORKING WITH THE PROVINCE ON ACTIVE TRANSPORTATION

Now is an ideal time for East Hants to be exploring AT and improvements to the provincial right-of-ways that run through the municipality. Historically, jurisdictional issues have been a major barrier to discussions about streetscaping and AT within East Hants. However, the provincial government has recently committed to improving land use planning and sustainable transportation options for communities throughout Nova Scotia in its Sustainable Transportation Strategy. AT is a key objective of the strategy, as it reduces dependence on the automobile and increases physical activity. The provincial government has also supported AT through the Blue Route, its plan for a province-wide network of bicycle routes; this network would encourage local cycling and cycle tourism throughout the province. These recent provincial decisions are particularly important for AT in East Hants, as a high proportion of the roads in the municipality are under provincial jurisdiction.

BUILD CAPACITY

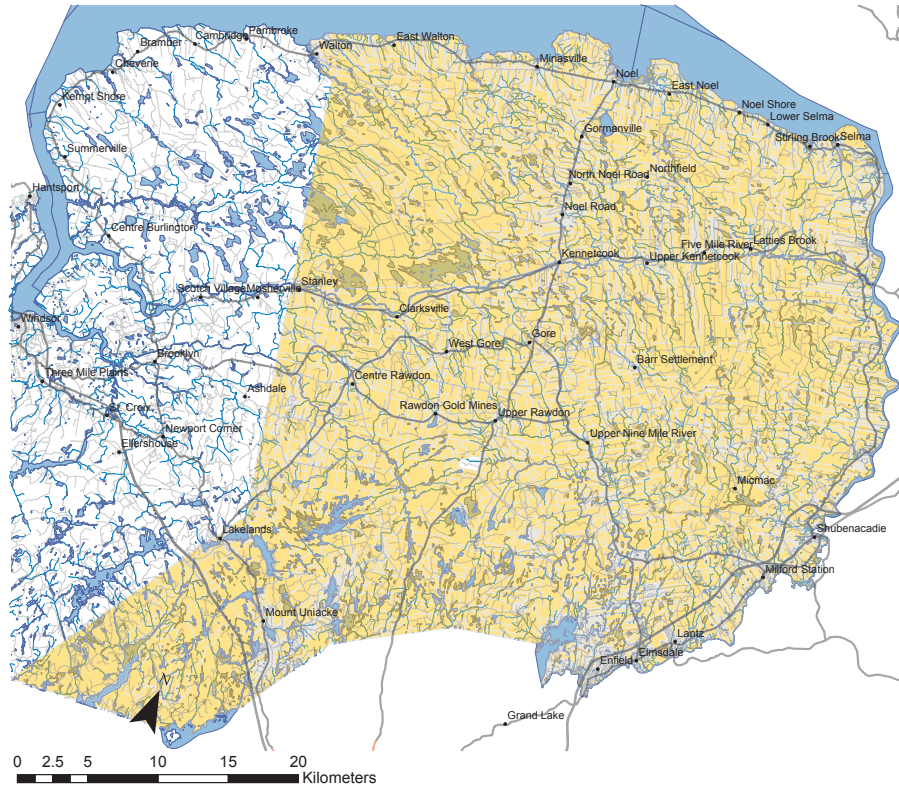
Locally, this AT Needs Assessment will serve as a foundation for understanding the AT opportunities in East Hants and provide an approach for evaluating AT routes in the future. Diverse departments (Planning, Recreation, and Engineering) worked together on this project as East Hants works towards incorporating Active Transportation into the Municipal Planning Strategy Review starting in 2014. The project also tested an audit tool that planners and engineers could use in the future for public engagement on AT planning.

2. NEEDS ASSESSMENT

MUNICIPALITY

The Municipality of East Hants is located within Hants County, covering an area of 1909 km². The municipality is bounded by Halifax Regional Municipality to the south, Colchester County to the east, the Minas Basin to the north, and the Municipality of West Hants to the west. Moderate slopes, agricultural lands and valleys draining the Shubenacadie and Nine Mile rivers characterize the physical geography of the region.

Municipality of East Hants

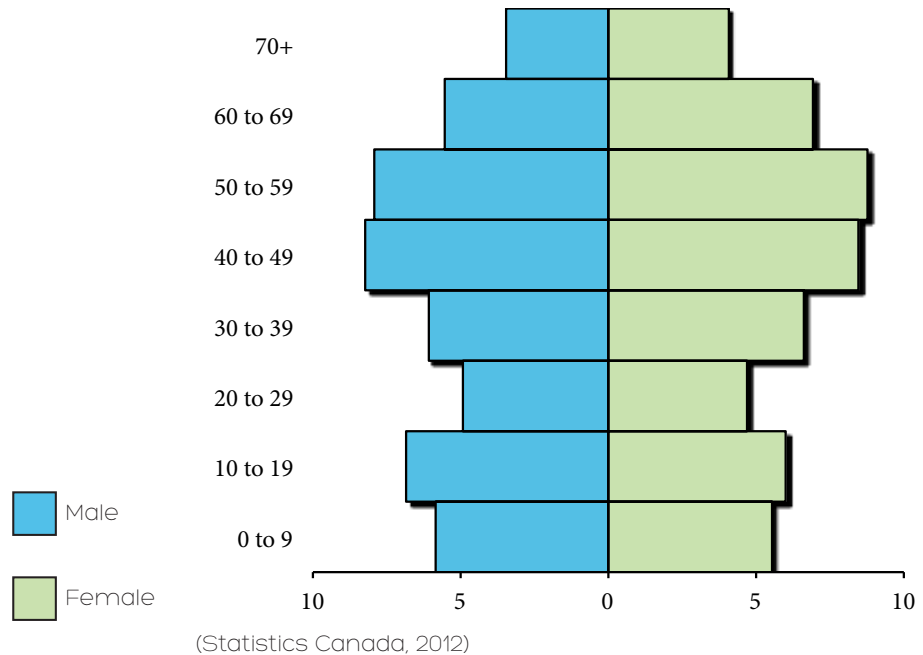


DEMOGRAPHICS

East Hants has a total population of 23,195. For political purposes, the municipality is divided into 13 districts, each with a representative councillor. The greatest concentration of population is in the South Corridor, with over 13,000 residents living in the area between Trunk 2 and Highway 102. In this report, the concentration of population and settlements along Trunk 2 are referred to the South Corridor. For the purposes of this report the South Corridor refers to Lantz, Elmsdale, Enfield, Milford Station, and Shubenacadie.

Over the last ten years, East Hants as a whole has grown more quickly

Municipality of East Hants 2011 Age-Sex Population Pyramid



than the rest of the province. While the population of Nova Scotia decreased slightly, that of East Hants grew from 21,753 to 23,195, an increase of 6%. Some of this growth is due to the municipality serving as a bedroom community for the neighbouring Halifax Regional Municipality.

The population of East Hants is younger than the provincial population. MEH has a median age of 41 and age cohorts from 0-19 represent 24.7% of the total population (see population pyramid of MEH above). In contrast, at the provincial level the 0-19 cohort represents approximately 21% of the population. The youth population is reflected in the high number of elementary and secondary schools (12) within the municipality, six of which are located along the South Corridor on Trunk 2. Another major population cohort exists from ages 40-59, representing future seniors and retirees within the region that account for 33.6% of the population (see population pyramid). Both youth and elders represent important target populations for Active Transportation as a strategy for improving independence for groups young and old who are unable to operate a vehicle.

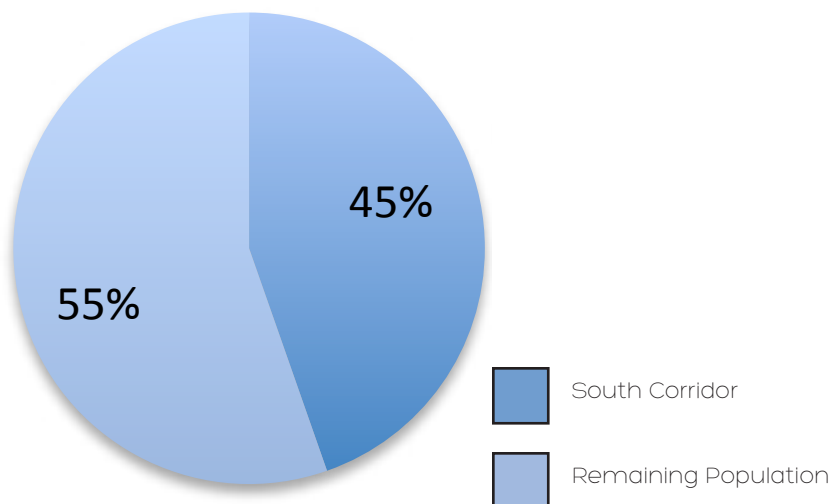
Future residential development will continue to occur in the South Corridor where the Municipality has identified large parcels of land for future residential development and population growth. In addition, the Municipality has developed a Village Cores Plan identifying the potential to add density and investment in key areas such as Enfield, Mount Uniacke, Elmsdale, Lantz and Shubenacadie. These development trends reinforce the need to think about how the Municipality can integrate new infrastructure to support more Active Transportation in the region.

SETTLEMENT PATTERNS

The Municipality of East Hants covers a large land area, but the population is mostly located along the Highway 101 corridor between Halifax and Windsor and the Highway 102 corridor from Enfield to Truro. Low-density residential subdivisions and commercial/industrial development are the prevalent land uses. Most of the development along these corridors fronts on or is only accessible from provincially-controlled highways. Many of these highways have few crossing areas and limited access or exit points. Furthermore, the residential areas in many parts of the municipality are typically cul-de-sacs that run off of a secondary provincial highway without direct access to neighbouring residential developments. Both of these factors create a road network of low connectivity and convenience, which are major deterrents for AT.

Within the municipality there are a number of mixed-use village cores with more compact settlement patterns along Trunk 2. The Trunk 2 Corridor includes village cores (Enfield, Elmsdale, and Lantz) that act as local service centres connected by Trunk 2, a provincial highway that functions more as a local arterial road (daily traffic volumes below 6000) with posted speed limits of 50-60 km/h. Generally, the settlement pattern along Trunk 2 is more conducive to AT with a variety of amenities and services that are within walking or cycling distance of residential areas. Other village cores exist (Mount Uniacke, Shubenacadie) throughout the Municipality with a mix of residential and commercial land use, compact settlement patterns, and frontage on secondary highways. Overall, East Hants is characterized by low-density settlement patterns dispersed along corridors defined by primary provincial highways and more compact village cores along various secondary provincial highways.

South Corridor Population Compared to MEH Population



(Statistics Canada, 2012)

GENERAL AT OPPORTUNITIES AND CHALLENGES FOR MEH

OPPORTUNITIES

- *Village Cores: As imagined in the Village Cores Plan, mix of land uses, compact settlement patterns and a pleasant atmosphere for walking and cycling.*
- *Educational Institutions: A large number of primary and secondary schools are located along the Trunk 2 Highway and close to village cores which could connect AT improvements to walk/bike to school initiatives.*
- *Gentle Slopes: Most village cores have gradual slopes that are conducive to walking and cycling.*
- *Trunk 2 and secondary highways: Residential and commercial development are concentrated on roads that are designated as provincial highways, but function now as local arterial roads with traffic volumes of approximately 3000 or less and potential for AT improvements.*
- *Trunk 2 and South Corridor: This area has a more compact settlement pattern with many origins and destinations that would result in trips of 5-8 km.*
- *Blue Route: The Provincial Government and the Department of Transportation and Infrastructure and Renewal have recently taken responsibility for developing a provincial cycling network as part of the Sustainable Transportation Strategy.*

CHALLENGES

- *Road Network: Many residential areas have poor connectivity and low route directness, encouraging automobile use.*
- *Low Rates of Cycling: Very few residents currently use walking and cycling as a mode of transportation, discouraging new cyclists and pedestrians.*
- *Provincial Roads: The majority of roads that provide access or connectivity to key destinations in MEH are under provincial jurisdiction, making it more difficult to redesign or retrofit the right-of-way or improve pedestrian crossings independently.*
- *Lack of infrastructure: Currently there is very little cycling infrastructure and investment in sidewalks has been limited.*
- *Narrow Right-of Way: Under the current provincial design guidelines it is difficult to provide space for active transportation without reducing required space for parking or traffic lanes.*
- *Trucking Routes: In some of the village cores (Lantz, Shubenacadie) the traffic volumes are relatively low, but there are still trucks that rely on these roads, making it more difficult to reduce lane widths to include more space for AT users.*

3. AUDIT AREAS

For the purposes of the Needs Assessment, Cities & Environment Unit (CEU) partnered with MEH staff and the Active Transportation Advisory Committee to identify four routes to explore in more detail. These routes are intended to provide a foundation for understanding how East Hants can kick-start its AT program. The selection of these routes was guided by their potential value as spines of a future AT network, as well as the number of community destinations they connect. Accordingly, routes were selected in areas with more compact settlement patterns where AT would be more practical. Furthermore, this assessment explored locations where both walking and cycling could be improved. The route selection also intended to represent a mix of districts and residents, serve schools and senior populations, and identify areas that are currently dangerous for pedestrians and cyclists. Each of the routes is described below to explain its current strengths and issues for AT and serve as a base for policy and design recommendations.

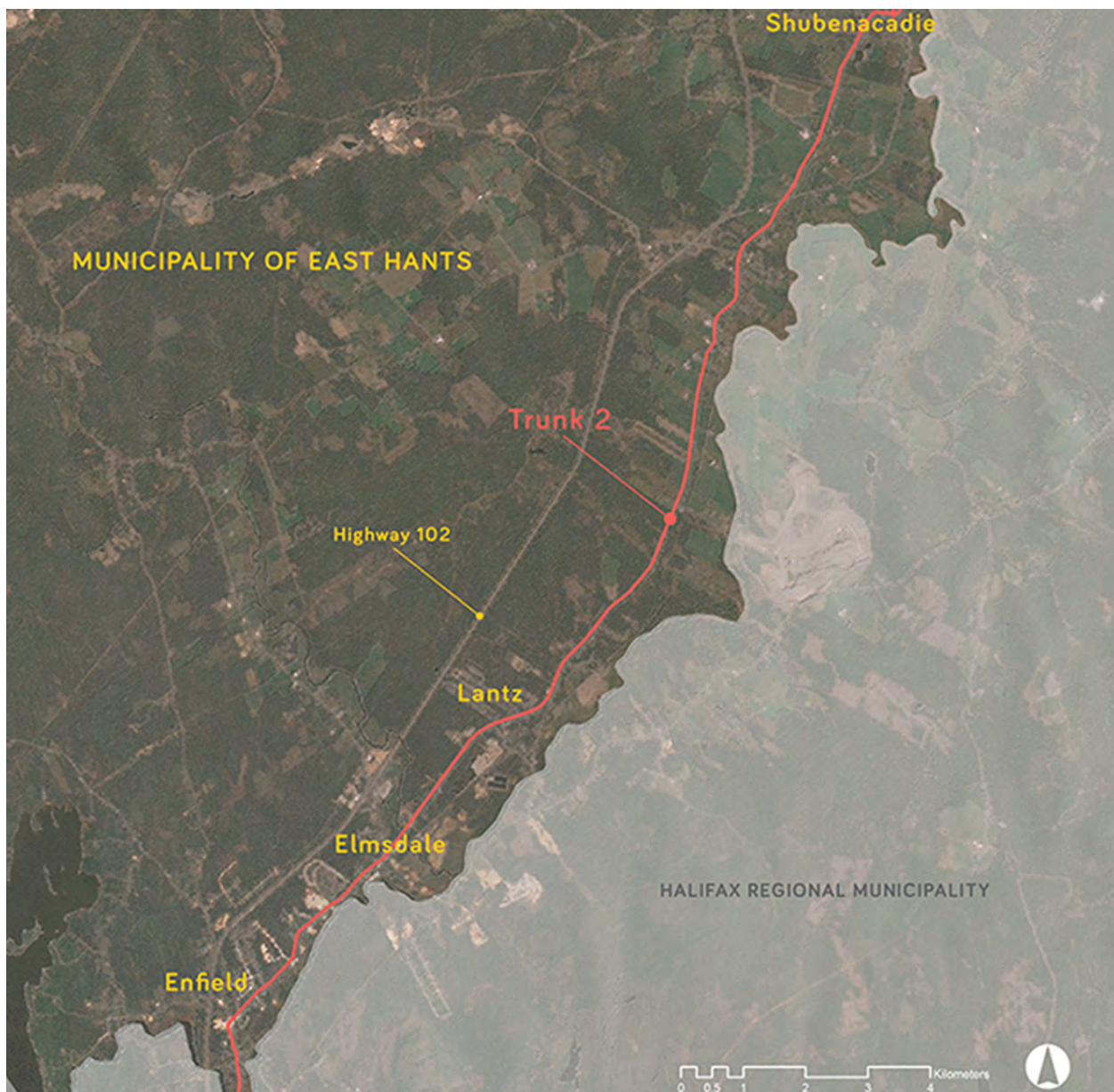
To understand the AT potential of the four routes, CEU developed walkability and bikeability audits (see Appendix). These audits provide community members, staff and councillors with a tool to assess various streets from an Active Transportation perspective. Participants respond to a series of questions that relate to the overall experience of cycling or walking on various streets (routes). The questions are based on a scan of best practices related to AT planning and design and adapted from other checklist tools (e.g.: United States Department of Transportation Bikeability Checklist).

The bikeability audit has 5 questions and the walkability audit has 6 questions. Each question requires participants to identify potential safety issues and rate the route from 1 to 5 on various characteristics (safe crossings, accessibility, level of maintenance, etc.). The scoring is ordinal with a rating of 1 the lowest and 5 the highest. A total score out of 30 for a walking route or out of 25 for a pedestrian route is generated, allowing for planners to compare the overall level of safety on different routes as perceived by the participants. The total score is then classified into one of three levels indicating the general level of safety. For example, on the walkability audit a route is in one of three groups: 6-10 (low level of safety), 11-20 (moderate level of safety), or 21-30 (high level of safety). The bikeability audit also has three groupings: 5-11 (the route did not feel appropriate for cycling) 12-18 (route felt reasonably safe with some issues) and 19-25 (route felt safe and attractive). It is important to note these classifications are not intended to be comprehensive, but to serve as a tool to compare the relative safety of routes in East Hants.

ROUTE #1: TRUNK 2

Trunk 2 is the old provincial highway that runs parallel to Highway 102. Historically, Trunk 2 was a key provincial transportation route connecting Halifax and Truro, but today it connects the South Corridor communities of East Hants: Enfield, Lantz, Elmsdale, Milford Station and Shubenacadie. The distance between Enfield and Lantz is approximately 8 km with primarily low-density residential development fronting Trunk 2 and residential subdivisions running perpendicular to Trunk 2. Commercial and service activity is clustered at each of the three village cores (Enfield, Lantz, and Elmsdale). For the purpose of the audits, the project team selected the portion of

Trunk 2 South Corridor Regional Map



Trunk 2 that connects the intersection of Highway 214 and Trunk 2 to Lantz heading Northeast. This segment of Trunk 2 has a pedestrian sidewalk on the west side of the street and a shoulder/wide curb lane on the east side of the street.

CURRENT TRANSPORTATION BEHAVIOUR

Currently, the transportation behaviour on this segment of Trunk 2 is automobile oriented. However, the sidewalk is well-used by pedestrians walking to the East Hants Sportsplex or the adjacent Maple Ridge School as well as others who may be using the sidewalk for recreational or discretionary purposes. Overall, there are low rates of active transportation within the South Corridor according to the most recent Statistics Canada data, the 2011 National Household Survey. Approximately 88% of individuals aged 15 and older drive as their primary mode of transportation, while only 0.8% walk or cycle in the South Corridor.



Pedestrian Shortcut from Sportsplex to Maple Ridge Elementary School

AT POTENTIAL

The distances between uses on this segment of Trunk 2 are well-suited to Active Transportation. It is approximately 3.5-4.0 km between Lantz and the most developed areas of Elmsdale. The opportunities for AT on this segment are primarily for discretionary AT trips to access recreation or services in the area. There are also opportunities for some commuter trips related to the school for older elementary school students and the various employees of the Lantz Village Core now and in the future. Additional opportunities might exist for cycle commuting trips to access the Shaw Bricks worksite or the Elmsdale Village Core which is approximately 3-4 km away.

DEVELOPMENT FORM

Although there is a substantial amount of residential units built and planned for this area, the present form of development is not ideal for AT. Currently, there are limited routes that allow for pedestrians or cyclists to leave their residential street and gain access to Trunk 2. The future redevelopment or densification of the Lantz Village Core could result in more commercial land use activity in the area and along the route. Also, the build out of the residential areas around the Sportsplex and elementary school will increase density in the area, meaning greater potential for discretionary trips. The development form of the area is primarily low-density residential with poor connectivity. However, planned development will add density to the area and increase the potential for services and amenities for local residents, encouraging local walking and cycling trips for commuting and discretionary purposes.



ORIGINS & DESTINATIONS - TRUNK 2

TRAFFIC CONDITIONS

Based on its close proximity to Highway 102, traffic on this segment of Trunk 2 primarily serves local needs related to the residential, commercial, recreational, and industrial land use activity in the area with posted speeds of 60km/h. The current traffic volume for this section of Trunk 2 is roughly 1562 during peak traffic times based on traffic data collected by CBCL in October 2013 for AM/PM and Noon peak traffic (CBCL, 2013). Provincial traffic volume data indicates Average Annual Daily Traffic (AADT) is 6430 (Department of Transportation Infrastructure Renewal, 2011). Based on the 2013

CBCL report, the highest traffic volumes occur from 8-9AM traveling southbound and 5PM northbound, indicating a large degree of traffic related to commuters living in the residential subdivisions adjacent to Trunk 2 and working in Halifax Regional Municipality or Enfield.

The segment of Trunk 2 adjacent to Maple Ridge Elementary School has a posted speed of 30km/h (school zones). Another key traffic characteristic in this area is the small amount of large trucking activity related to the Shaw Brick operations in the area. On the CBCL traffic study, large trucks generally represented 1-3% of all vehicle trips. Destinations in the area that serve the broader population of East Hants include the Sportsplex and the Maple Ridge Elementary School.

Traffic activity on this segment of Trunk 2 is on the edge of what is acceptable for cyclists to share the road with vehicles, or may require a paved shoulder to provide a facility attractive for a variety of users (Washington County, 2012). There is a lack of formal crossing areas for pedestrians to access the Village Core of Lantz even though there is a continuous sidewalk on the north side of Trunk 2.

The East Hants Sportsplex and Maple Ridge Elementary School are within this segment of Trunk 2 and are within a short walk or cycle (2.0 km) to the residential areas in Lantz. The Municipality is also working with Clayton Developments Limited and Armco to develop the areas surrounding the Sportsplex, indicating that more residents will be living within a short walk or cycle to the school and Sportsplex.

RIGHT-OF-WAY ASSETS & ISSUES

Assets

1. Continuous sidewalk
2. School zone slows traffic
3. Wide paved shoulder that could easily be designated a bike lane
4. Flat to moderate slope
5. Good sightlines and visibility

Issues

1. Gravel on the shoulder that could be dangerous for cyclists
2. Lack of crossings for pedestrians
3. Road narrows, lack of paved shoulder at intersection
4. No signage or explanation of the importance of sharing the road
5. Road narrows close to Lantz Village Core
6. Lack of bike parking at destinations
7. Path between Sportsplex and school is not accessible



RIGHT-OF-WAY ASSETS & ISSUES - TRUNK 2

ASSETS

1. Continuous Sidewalk



2. School Zone, Slower Traffic



3. Wide Paved Shoulder



4. Flat to Moderate Slope

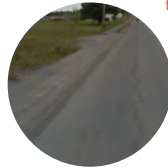


5. Good Sightlines and Visibility



ISSUES

1. Gravel on Shoulder Dangerous for Cyclists



2. Lack of Pedestrian Crossings



3. No Paved Shoulder at Intersection



4. Lack of Signage for Cycling



5. Road Narrows by Lantz Village Centre



6. Lack of Bike Parking Facilities



7. Cut-through Not Accessible



RESULTS OF PUBLIC AUDIT - TRUNK 2 ROUTE NORTH

Based on the results of the audit, this route scored the highest for cycling. The participants scored the route an average of 19.6 out of 25, indicating that participants felt the route was safe and attractive for cycling. This portion of Trunk 2 has the widest shoulders and is likely the best candidate for a designated cycling route on Trunk 2. It is important to note our group bicycle ride took place on a Saturday morning in low traffic conditions.

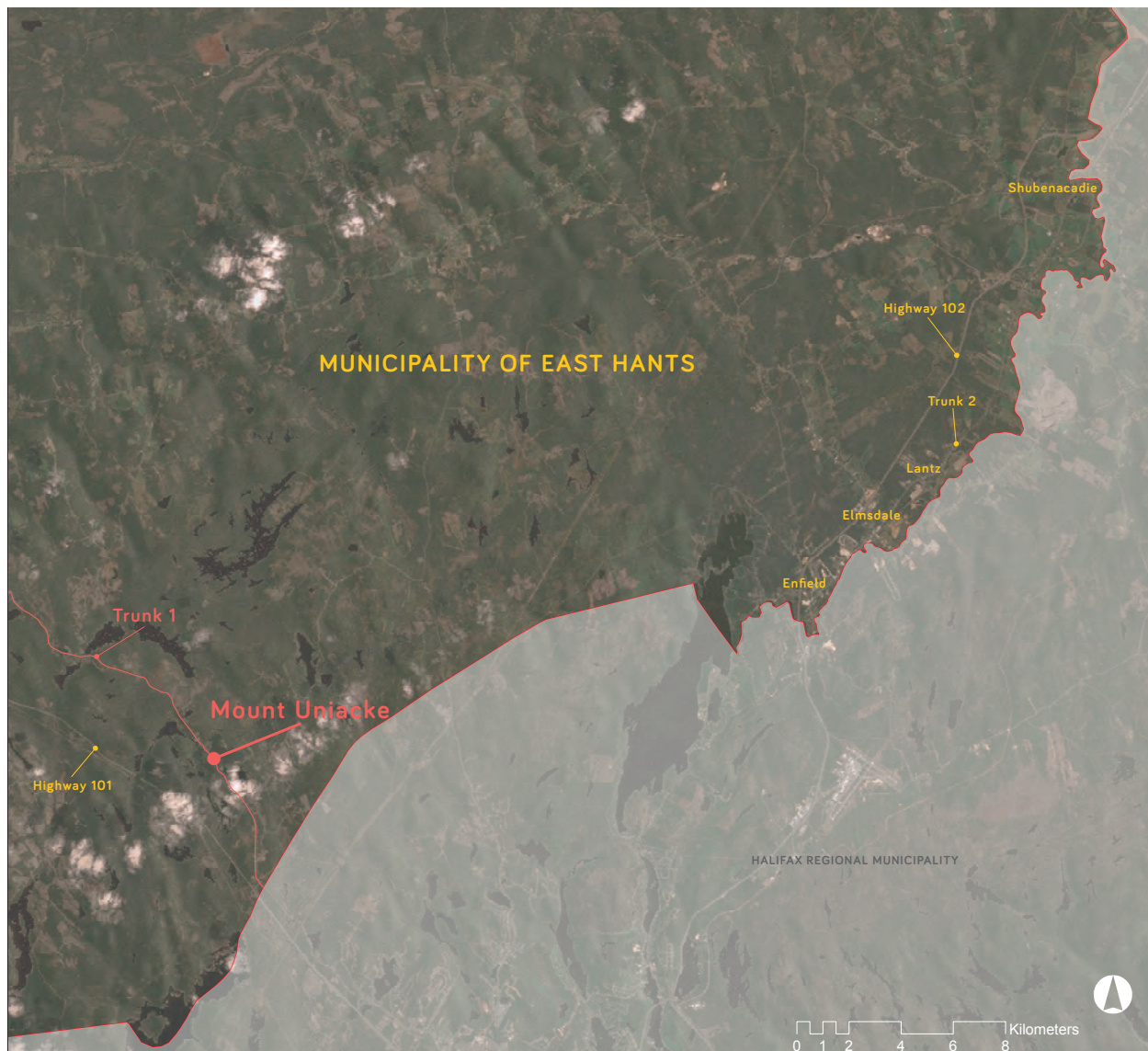


Cycling audit on Trunk 2

ROUTE #2: MOUNT UNIACKE

The Mount Uniacke route is located on Trunk 1 (Evangeline Trail) between Uniacke Estate and Uniacke District High School covering approximately 2.1 km. Trunk 1 runs parallel to Highway 101, primarily serving local traffic in the Mount Uniacke area. The route runs through the Village Core of Mount Uniacke where a mix of local services and amenities exist as well as some more regional recreational spaces located in Mount Uniacke. There are a number of residential streets that exist on streets running perpendicular to Trunk 1 as well as a seniors home that fronts onto Trunk 1. A rail line that runs through the main intersection of Trunk 1 and Old Mines Road is not currently active.

Mount Uniacke Regional Map



CURRENT TRANSPORTATION BEHAVIOUR

The majority of transportation activity within this segment is automobile oriented. Recent Statistics Canada data indicates that over 90% of commuting trips are done using a private automobile. Transportation rates for Active Transportation are currently very low (1-2%); however, during our audit we saw a number of students walking home from the Uniacke District High School along Trunk 1. In addition, the presence of a seniors home on Trunk 1 adjacent to the fire hall results in many pedestrians walking along Trunk 1. Other considerations include the large network of trails that are accessed by the fire hall by Murphy Lake that connect to Uniacke Estate.

AT POTENTIAL

Although the majority of the residents in Mount Uniacke use automobiles for commuter and discretionary trips there is potential for a greater number of AT trips based on the way the community is organized. The short distance of this route (2.1 km) suggests that AT could be a practical way for community residents to access local services, amenities, institutions and recreational areas. Moreover, the owner of the rail line has expressed an interest in working with local trails groups to develop a rails-and-trails route that would connect to Sackville. This could ultimately become a component of the provincial Blue Route facility that could make it possible for residents to commute longer distances or for students and staff at the high school to use a trail for long distance. A regional AT connection could also position Mount Uniacke as a potential cycle tourism destination for groups heading from Halifax north to Windsor and Wolfville. Overall, AT within Mount Uniacke has potential to support more local trips but could also enhance the community as a regional cycling destination as the Blue Route develops.

DEVELOPMENT FORM

Although the Mount Uniacke Village Core area that surrounds the Trunk 1 route is quite compact, the number of residential units and population of Mount Uniacke is quite small (approximately 3500). However, as future residential development occurs, Trunk 1 will become increasingly important as a local main street for residents living in the area. Currently, there are only a couple of residential roads that run perpendicular to Trunk 1, limiting the degree to which cul-de-sacs in residential subdivisions are affecting trip distances and route directness. Also, a major opportunity exists to explore how the lands adjacent to the rail line might be repurposed to support AT connections between the school and the Trunk 1/Old Mines Road intersection. Overall, the majority of development in Mount Uniacke is oriented to Trunk 1, resulting in a development form that has good potential for AT.



ORIGINS & DESTINATIONS - MOUNT UNIACKE

TRAFFIC CONDITIONS

Currently, there are very low rates of walking and cycling with the majority of users on the road being private automobiles on the Trunk 1 Highway. Traffic volumes are quite low on this road with the majority of more regional traffic using Highway 101. Based on provincial traffic data the AADT is 5420 (Nova Scotia, 2011). However, in some cases vehicles pass through the area at high speeds due to the lack of intersections or signalized crossings. Where Trunk 1 passes Uniacke District High School the posted speed is 30km/h, but there is no change in the design speed of the road. There are two pedestrian crossings within Mount Uniacke, one at the seniors home and one at the railroad crossing. There are no sidewalks currently within Mount Uniacke, but there is a considerable amount of space on the shoulder that allows for pedestrian refuge. Currently, the shoulder is used by seniors in the area and youth walking to the school. Although it is a provincial highway, there is no limit on driveways or vehicle access to Trunk 1. For example, the gas station and other

services and amenities in the Village Core of Mount Uniacke enter directly on to Trunk 1. Overall, Trunk 1 has low traffic volumes, more consistent with a local road than a provincial highway; however, the low-density settlement pattern and lack of signalized intersections result in frequent speeding.

RIGHT-OF-WAY ASSETS & ISSUES

Assets

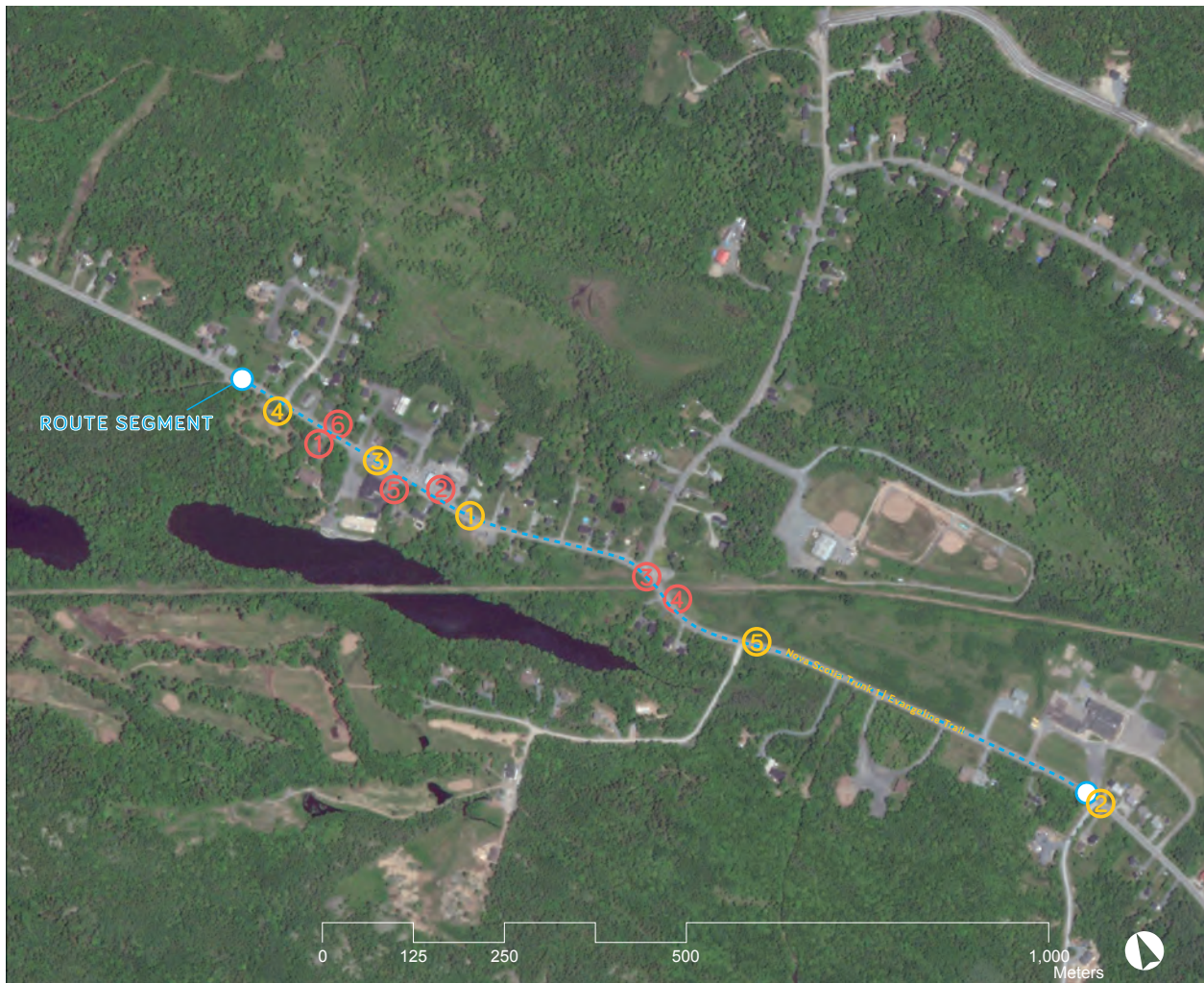
1. Wide shoulders on both sides of Trunk 1
2. School zone in front of Uniacke District High School
3. High number of driveways providing access to Trunk 1
4. Pedestrian and recreation oriented uses
5. Flat route that is easy for AT users

Issues

1. Poor visibility of pedestrian crossings (markings & signage)
2. No continuous pedestrian environment
3. Limited crossing opportunities
4. Uneven and inaccessible surfaces
5. Water pooling
6. Lack of lighting and uneven terrain near crossings

RESULTS OF PUBLIC AUDIT - MOUNT UNIACKE TRUNK 1

During the walkability audit for this route we had one participant who lives at the seniors home adjacent to the fire hall. This participant has difficulty walking any distance without a walker and was therefore able to provide a unique perspective on the challenges of walking in Mount Uniacke. Overall the average score for the walkability audit was 10/30, registering just below the moderate level of safety. This reflects the inaccessibility of the route for people who are less mobile.



RIGHT-OF-WAY ASSETS & ISSUES - MOUNT UNIACKE

ASSETS

1. Wide Shoulders on Trunk 1



2. School Zone by High School



3. Lots of Driveways Access by Trunk 1



4. Pedestrian and Recreation Uses



5. Gentle Slope for AT Users



ISSUES

1. Poor Visibility of Crossings



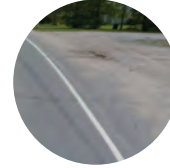
2. Lack of Pedestrian Environment Clarity



3. Limited Opportunities for Crossing



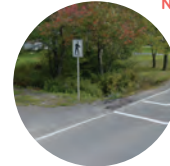
4. Uneven and Inaccessible Surfaces



5. Pooling of Water



6. Lack of Lighting and Even Terrain Near Crossings



ROUTE #3: SHUBENACADIE VILLAGE CORE TRUNK 2

This 1 km route passes through the mixed-use Village Core of Shubenacadie, from the Shubenacadie Post Office to the Highway 224 overpass where the park is located. This stretch of Trunk 2 is situated in close proximity to Highway 102, with two secondary provincial highways (224 & 215) also connecting to Trunk 2. The Municipality of East Hants recently constructed a curb and gutter sidewalk on one side of the street connecting a number of residential homes and the post office to the commercial services and amenities of the Village Core. However, the pedestrian environment for the route is not continuous or consistent, with a number of locations having no sidewalks at all. This route is a good example of an opportunity to improve the pedestrian environment in an area with a good mix of residential and commercial uses within a short distance.

CURRENT TRANSPORTATION BEHAVIOUR

The commuting patterns are similarly automobile oriented in Shubenacadie as in the other routes, with almost 90% of the population using a private automobile as their main means of transportation. There is also some trucking related to local farming activity. However, this route may have some of the greatest potential to encourage AT for discretionary trips as well as some commuting trips. Approximately 4% of residents are currently using AT as their primary means of getting around the community. The number of residential streets that are within a 1 km radius indicates a good proportion of residents could integrate walking as a way to move around the community. More specifically, discretionary trips to access services and amenities in the Village Core or recreation events or church gatherings all are in close proximity to the Trunk 2 route. Overall, the greatest opportunity for AT is discretionary trips for residents accessing daily services and amenities in the Village Core of Shubenacadie.

DEVELOPMENT FORM

The development form and settlement pattern of the route and surrounding areas is well suited to support AT trips. The setback of buildings on the route results in a pleasant environment for AT. Within the Village Core, the limited setbacks create a consistent streetwall that encourages pedestrian activities. On the edge of the village where the sidewalk was constructed there are street trees and residential front yards that provide a pleasant environment for walking. The compact settlement pattern is supportive of AT within Shubenacadie, with most residential streets in close proximity to Trunk 2. Some of the streets are limited in their access to the Trunk 2 Village Core area by the rail line. The historical development of the town alongside the railroad has resulted in a compact village with

a good mix of services and amenities surrounded by residential streets.



ORIGINS & DESTINATIONS - SHUBENACADIE

TRAFFIC CONDITIONS

The Trunk 2 route largely serves local traffic, with AADT of 3324 between the Post Office and the Highway 224 overpass (Nova Scotia, 2011). In this area, Trunk 2 plays a limited role as a provincial thoroughfare. Traffic is associated with accessing services and amenities in the Village Core and commuting. Based on site visits, there is also a considerable amount of pedestrian activity from surrounding residential areas.

The posted speed within the Village Core is currently 50 km/h with many cars and pedestrians accessing services on Trunk 2 and calming traffic. Also, the short building setbacks and the construction of a curb and gutter sidewalk have narrowed the right-of-way and calmed traffic through the Village Core. In the Village Core, on-street parking is very inconsistently organized with angle, parallel and perpendicular parking configurations that make it difficult for pedestrians to know where to be.

RIGHT-OF-WAY ASSETS & ISSUES

Assets

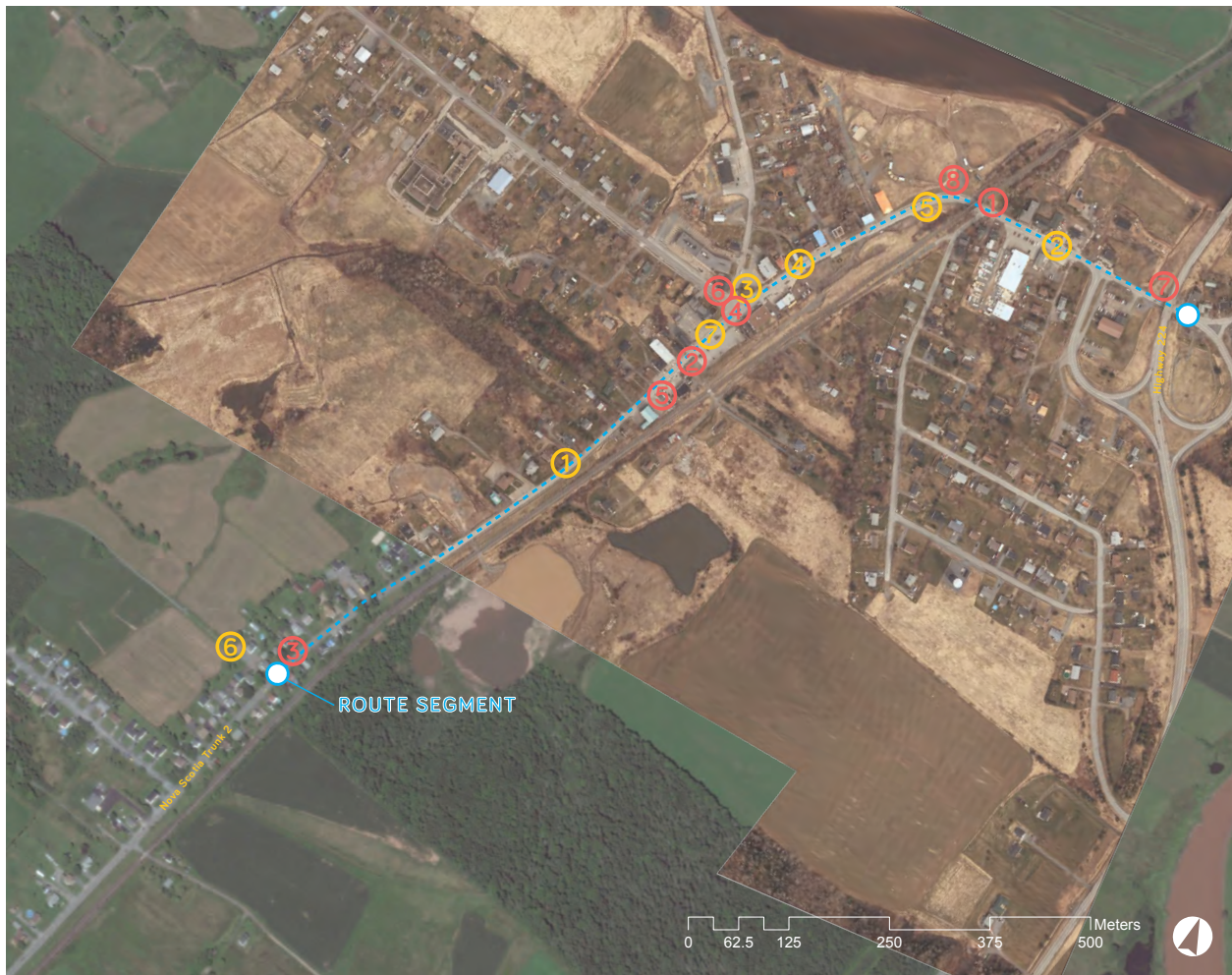
1. Existing curb and gutter sidewalk
2. Narrow right-of-way
3. Good pedestrian character
4. Streetfront buildings and uses
5. Usable shoulders
6. MacInnis Trail Access
7. Built form is supportive of AT

Issues

1. Limited crossings
2. Pooling of water
3. Non-continuous sidewalks
4. Poorly maintained crossings
5. Haphazard on-street parking
6. Dangerous T- intersection
7. Limited connections to Hwy 224
8. Lack of pedestrian amenities

RESULTS OF PUBLIC AUDIT - VILLAGE CORE & SIDEWALK

For the Trunk 2 route segment of Shubenacadie the average walkability score was 16.8. This is the segment where pedestrians do not have a continuous sidewalk, but the general atmosphere is pleasant for walking. The second route segment is where the Municipality recently constructed a curb and gutter sidewalk, resulting in an average score of 25.3, demonstrating the importance of pedestrian infrastructure in shaping people's perception of safety. Both routes benefited from the general village atmosphere that supports walking.



RIGHT-OF-WAY ASSETS & ISSUES - SHUBENACADIE

ASSETS

- 1. Existing Curb and Gutter Sidewalk
- 2. Narrow Right-of-Way
- 3. Good Pedestrian Character
- 4. Streetfront Buildings & Uses
- 5. Usable Shoulders
- 6. MacInnis Trail Access
- 7. Built Form Supportive of AT



1. Existing Curb and Gutter Sidewalk



5. Usable Shoulders



2. Narrow Right-of-Way



6. MacInnis Trail Access



3. Good Pedestrian Character



7. Built Form Supportive of AT



4. Streetfront Buildings & Uses

ISSUES

- 1. Limited Crossings
- 2. Pooling of Water
- 3. Non-Continuous Sidewalk
- 4. Poorly Maintained Crossings
- 5. Haphazard On-Street Parking
- 6. Dangerous T-Intersection
- 7. Limited Connections to Hwy 224
- 8. Lack of Pedestrian Amenities



1. Limited Crossings



5. Haphazard On-Street Parking



2. Pooling of Water



6. Dangerous T-Intersection



3. Non-Continuous Sidewalk



7. Limited Connections to Hwy 224



4. Poorly Maintained Crossings



8. Lack of Pedestrian Amenities

ROUTE #4: ROUTE 214

This 2 km route that connects the Elmsdale Village Core with Trunk 2 is divided into two segments. The first segment connects Elmsdale Business Park to the Elmsdale Shopping Centre, including Park Road within the Business Park and the bridge overpass connecting to Highway 214. The overpass has 2 lanes of traffic in each direction and a small raised pedestrian refuge. The second segment of the route is Highway 214 from the shopping centre to Trunk 2. This segment links Highway 102 to Elmsdale and Lantz, providing the best access to Halifax Regional Municipality.

This route links some of the most important civic and service destinations in the municipality, including the Municipality of East Hants municipal offices, library, various services and amenities in the Elmsdale Business Park as well as the major shopping centre fronting on Highway 102 and accessible from Highway 214.

CURRENT TRANSPORTATION BEHAVIOUR

All of the roads on this route are major traffic thoroughfares that are automobile oriented in their design. However, this route also represents a key connection for employment and services within the South Corridor of the municipality. There is a sidewalk running the entire length of route segment #2 on Highway 214 and a sidewalk for the majority of route segment #1 with some short areas of intense exposure to traffic. There is also an informal pedestrian shortcut through the back of the municipal building to the carpool lot and up to the Highway 214 overpass. According to Statistics Canada, 1.3% of Elmsdale residents currently use AT as their main mode of transportation. Both segments of the route were audited from a cycling and walking perspective to understand the experience of AT users in this area.

AT POTENTIAL

Route Segment #1 is a very unpleasant area for pedestrian and cyclists given the high speed of cars and high traffic volumes moving through Highway 214 and accessing Highway 102. However, many of the uses that are located within this portion of the route are important community destinations for community members of all ages, reinforcing the importance of making the area accessible by AT.

Route Segment #2 is the key link to the shopping centres and Elmsdale Business Park from Trunk 2. Also, there is potential for future development along Highway 214 to become more street oriented, reinforcing the need to improve AT. Trunk 2 could become the AT spine connecting the South Corridor communities with this route serving as the primary spur to many important destinations in the Elmsdale Village Core.



ORIGINS & DESTINATIONS - ROUTE 214

DEVELOPMENT FORM

One of the biggest barriers for AT on this route is the automobile oriented design of road infrastructure on Route Segment #1. Although there are many important destinations in this area it is not convenient or pleasant to access these destinations using AT due to the low-density settlement pattern.

A sidewalk exists throughout route segment #2, but the general environment is still very much that of a corridor to connect vehicles from Trunk 2 to Highway 102. The long distances between uses on this part of the route are better suited to cycling.

TRAFFIC CONDITIONS

This route is one of the highest traffic areas in the Municipality, funneling traffic from Highway 102 into the various communities in the South Corridor. The AADT is 14,600, demonstrating the importance of the route as a key connector to Highway 102.

Route Segment #1 begins at Park Road which is the main street through the Elmsdale Business Park, serving more local traffic with a curb and gutter sidewalk on one side of the road. The transition from Park Road to Highway 214 represents the area of greatest vulnerability for AT users with high traffic volumes, limited space on the shoulder and no sidewalk until the overpass bridge. The bridge provides a very narrow elevated pedestrian refuge and the signalized intersection provides a crossing to the Elmsdale Shopping Centre. The high traffic volume reinforces the need for further infrastructure to AT users.

Route Segment #2 is more accommodating to AT, with a sidewalk on both sides of the street from the Elmsdale Shopping Centre to the Adult Education Centre. At this point there is a pedestrian crossing to allow pedestrians to move to the east side of the street. The posted speed for Highway 214 is 50 km/h but the high traffic volume and automobile oriented nature of the route result in high speeds along the Highway 214 corridor. There is limited space for cyclists with a narrow curb lane on one side and a narrow and uneven shoulder for cyclists on the other side of the Highway 214.



Pedestrian Shortcut from Lloyd Matheson Centre to Highway 214 Bridge



RIGHT-OF-WAY ASSETS & ISSUES - ROUTE 214

ASSETS

1. Sidewalk on Route 214



5. Wide Curb Lane on Park Road



2. Good Sightlines



6. Pedestrian Refuge on Overpass



3. Signalized Intersection



7. Wide Curb Lane on Route 214



4. One-sided Sidewalk in Business Park



8. Street Oriented Uses



ISSUES

1. Narrow and Uneven Shoulder



5. Faded Marking of Crosswalk



9. Dangerous Pedestrian Approach



2. Lack of Pedestrian Crossings



6. Few Street Furnishings



10. Cut-through Not Accessible



3. Limited Visibility of 214-Trunk 2 Crossing



7. Route Not Accessible



4. Narrow Sidewalk in Poor Condition



8. Curb Bump Out



Assets

1. Sidewalk on one side of Highway 214
2. Good sightlines
3. Signalized intersection allows for safe crossing for pedestrians and cyclists
4. Sidewalk on one side of street in East Hants business park area
5. Wide curb lane on Park Rd
6. Pedestrian refuge on Highway 214 overpass
7. Wide curb lane going south on Highway 214
8. Street oriented uses on Highway 214

Issues

1. Narrow and uneven shoulder on Highway 214
2. Lack of crossings on Highway 214
3. Pedestrian approach to Highway 214 overpass
4. Sidewalk in poor condition: vegetation growing, water pooling.
5. Pedestrian crosswalk where sidewalk ends is poorly marked
6. Few street furnishings
7. Route not accessible
8. Curb bumps out at McDonald's heading west
9. Dangerous pedestrian approach by North 102 exit
10. Path to/from Lloyd Matheson Centre not accessible

RESULTS OF PUBLIC AUDIT - 214 TO TRUNK 2

For this route we conducted both bicycle and pedestrian audits to understand the AT environment. Pedestrians gave route segment #1 an average score of 10/30, indicating a low level of perceived safety among participants on our audit. This score is a result of the dangerous transitions on to the overpass from the Elmsdale Business Park. Route Segment #2 from Highway 214 at the Shopping Centre to Trunk 2 received an average score of 15.5, reflecting a moderate level of safety. This increased level of safety reflects the presence of a sidewalk on this segment of the route.

From a cycling perspective, the two segments were combined during the audits. This route was identified from some participants to be unsafe based on the high traffic volumes, speed of traffic and limited space on the shoulder for cyclists. The average score was 12.6, which falls on the low end of the middle category where a route is reasonably safe and comfortable for cycling but some issues are identified. It is important to note that the bicycle audit was conducted on a Saturday morning during low traffic and model driver behaviour.

CONCLUSION

The Needs Assessment section of the report describes the current opportunities and challenges for encouraging AT on the four audit routes. The four routes selected are intended to provide direction to the Municipality of East Hants in its efforts to encourage AT in the future. The identification of assets and issues provided will form the basis for the Vision and Recommendations sections of the report.



Cycling audit on Route 214

4. VISION

This section of the assessment describes how the four audit areas could be transformed in the long term to give more priority to walking and cycling. In order to create a more supportive environment for AT, greater infrastructure improvements and more space for walking and cycling within the right-of-way are required. By clearly designating space for walkers and cyclists residents will have greater transportation options for moving around the municipality.

Through site visits and background research, the project team has gained an understanding of the challenges and opportunities for each of the audit areas from an AT perspective. The vision for each route responds to these challenges and identifies a range of interventions and infrastructure that could improve the route from an AT perspective. The vision for each route takes a long-term view of how these four study areas could be developed and transformed, requiring further detailed design, capital budgets and cooperation from the Department of Transportation and Infrastructure Renewal.

The vision for each route of the assessment guides and informs both the immediate and longer term recommendations detailed in Section 5. The recommendations for each audit provide short-term and relatively low-cost actions the Municipality could undertake as a first step towards the long term and higher investment actions that would be required by the visions presented here. These visions are understood to be the ultimate goal for AT effectiveness and safety within East Hants.

TRUNK 2

Trunk 2 will become the main active transportation route for the communities of the South Corridor. Its bicycling infrastructure will be expanded to connect the Village Cores of Enfield, Elmsdale and Lantz. This new bicycle route could become a key part of Nova Scotia's Blue Route.

In the long term, this vision will be achieved by expanding the paved shoulder, designating cycling lanes with sharrow, and installing new pedestrian amenities such as benches.

In the short term, a "share the road" awareness campaign could be initiated with road signs, and wayfinding signage could be installed along Trunk 2 to inform AT users of distances and times to important destinations, such as the East Hants Sportsplex.



MOUNT UNIACKE

The Mount Uniacke Village Core will continue to function as a local service centre with a new emphasis on slowing traffic to improve safety for all road users. A pedestrian zone will be added to the north side of the street to calm traffic. This accessible, continuous pedestrian zone will connect the seniors home to Mount Uniacke District High School. The pedestrian crossing at the seniors home will be made more visible, and that crossing will connect the pedestrian zone with the seniors housing, local park, Uniacke Estates and the extensive trails in the area.

The pedestrian zone will improve pedestrian safety and encourage walking among residents. Improved lighting will highlight key locations such as crossings and local businesses. Temporary planters at the gas station will help shield pedestrians and define vehicle access from Trunk 1. The pedestrian crossing at the rail line will be enhanced, forming a connection with the new rails and trails route that will run from Mount Uniacke to Sackville.

The pedestrian zone could be defined using a variety of materials. In the long-term, the zone could become a continuous paved shoulder with traffic buffers at key locations or curb and gutter sidewalks with pedestrian lighting running throughout the Village Core.



SHUBENACADIE TRUNK 2

The Shubenacadie Village Core has many assets that offer a strong foundation for future AT improvements. Existing sidewalks and the large number of community and retail destinations in the Village Core will facilitate the development of a pedestrian zone that is safe, comfortable, and accessible.

Short-term improvements could include reorganizing parking in the Village Core to provide pedestrians with safe and accessible routes; improving existing pedestrian crossings; and developing a continuous pedestrian zone as a pilot project with temporary barriers and plantings.

In the long term, the pedestrian zone will be made permanent with distinct paving and barriers, new lighting and furnishings, and new pedestrian crossings.



ROUTE 214

Highway 214 will continue to be the main connection for vehicles between Trunk 2 and Highway 102, resulting in high traffic volumes on this corridor. Due to the high volumes, narrow carriageway and high traffic speed, the corridor will not be attractive to most AT users without providing an improved AT environment

To improve AT in the long term it will be necessary to transform the current pedestrian zone (sidewalk and planting strip) into a multi-use trail. This improvement will require the widening of the paved area to allow both pedestrians and cyclists to share the space. This improvement coupled with improvements to pedestrian crossings will improve safety and encourage more residents to use AT on this important corridor between the Matheson Centre and Trunk 2.



5. RECOMMENDATIONS

To improve the conditions on each of the four routes, the project team has developed a series of recommendations that can inform actions on each of the four AT routes that comprise the Needs Assessment. These recommendations are based upon a variety of considerations: audit observations from the public, traffic volumes, pedestrian and bicycle design standard best practices, and general observations gathered from site visits from the project team. The recommendations have been separated into short- and long-term approaches to identify opportunities for MEH to move forward immediately with some of these projects or actions, while in other cases long-term projects require substantial capital budgets, detailed designs and substantial discussion and negotiation with the Department of Transportation and Infrastructure Renewal. In addition, long-term projects should be considered during the Municipal Plan Review as possible areas of discussion and considerations when planning future development. Overall, these recommendations relate to and work towards the visions identified for each route in Section 4. The recommended improvements for each route are identified on a map of each audit area and further illustrated with precedent images and examples. A site plan is provided for Shubenacadie to further illustrate and demonstrate how short- and long-term recommendations can be designed and integrated to transform a route into an accessible, effective, and safe AT environment.

TRUNK 2 – LANTZ - ROUTE 214

SHORT-TERM RECOMMENDATIONS (ORANGE)

- 1. Add bike parking to East Hants Sportsplex*
- 2. Work with TIR to identify Trunk 2 as a cycling route using Share the road signage*
- 3. Look to improve the clearing of the shoulder to improve safety for cyclists (especially in areas where industry is located)*
- 4. Provide additional street furniture on sidewalk side of the street (e.g. benches), explore partnership with local community transit group*
- 5. Look to develop some basic wayfinding signage to communicate distances from Lantz to the Sportsplex or Highway 214 to the Sportsplex*

LONG-TERM RECOMMENDATIONS (BLUE)

- 1. Install new pedestrian crossing at Logan Drive Intersection*
- 2. Ensure paved shoulder all the way to Lantz Village Core*
- 3. Add bicycle sharrow markings on both sides of street (curb lane and paved shoulder)*
- 4. Explore opportunities to shift centre line in areas where the curb lane is too narrow*



RECOMMENDATIONS - TRUNK 2 (LANTZ - ROUTE 214)

SHORT-TERM:



1 - Add bike parking



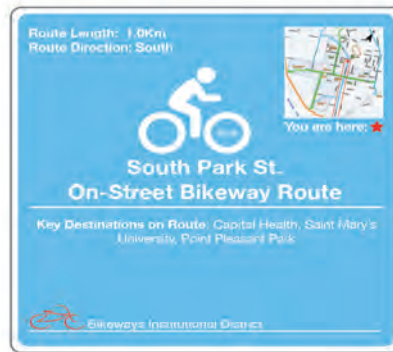
2 - Cycling route "share the road" signage



3 - Clear shoulder for improved cycling safety



4 - Add street furniture in cooperation with local transit group



5 - Develop wayfinding signage

LONG-TERM:



1 - New pedestrian crossing



2 - Continuous paved shoulder



3 - Add bike sharrow markings



4 - Shift centre line where curb lane narrows



RECOMMENDATIONS - MOUNT UNIACKE TRUNK 1

SHORT-TERM RECOMMENDATIONS (ORANGE)

1. Work with RCMP to improve enforcement of speed zones, volunteer task force with the school and fire department to put out the speed signs for the school zone and Trunk 1 through the village
2. Work with TIR to repaint the markings at the pedestrian crossing by the seniors home
3. Repave areas where there is significant water pooling that limits ability of seniors with walkers
4. Install physical barrier between ditch and crossing for seniors
5. Formalize the vehicle access to gas station area to improve pedestrian safety
6. Explore temporary buffers and marking to define pedestrian zone in area around the gas station

LONG-TERM RECOMMENDATIONS (BLUE)

1. Install pedestrian-oriented lighting by the pedestrian crossing
2. Explore paving shoulder and/or sidewalk on north side of street
3. Explore design treatments for traffic calming around the Mount Uniacke District School
4. Work with local trails group to develop a mixed-use trail between school and Old Mine Rd / Trunk 1 intersection
5. Explore long-term opportunities for Rails-and-Trails to become a formal section of the Blue Route.

SHORT-TERM:



1 - Enforce speed zones



2 - Repaint pedestrian crossing



3 - Repave potholes and areas of pooling water



4 - Install barrier by ditch at pedestrian crossing



5 - Improve pedestrian safety at gas station



6 - Temporary barriers for pedestrian zone

LONG-TERM:



1 - Pedestrian oriented lighting by crossing



2 - Paving shoulder and/or sidewalk



3 - Traffic calming improvements



4 - Mixed-use trail



5 - Rails-and-trails & Blue Route integration



RECOMMENDATIONS - ROUTE 214

SHORT-TERM RECOMMENDATIONS (ORANGE)

1. Improve the markings at the crosswalk by the school where the sidewalk ends on both sides of the street
2. Repaint the markings at the intersection of Trunk 2 and Route 214
3. Work with school and RCMP to improve enforcement of posted speeds
4. Reduce pooling of water in pedestrian areas through repaving or regrading
5. Formalize the path from Lloyd Matheson to Route 214
6. Add additional street furnishing in areas where pedestrian environment is in poor condition

LONG-TERM RECOMMENDATIONS (BLUE)

1. Consider paving shoulder
2. Bike sharrows in wide curb lane and paved shoulder in the future
3. Explore the conversion of sidewalk to a multi-use trail
4. Resurface sidewalk in areas where weeds, cracks and bumps make it inaccessible

SHORT-TERM:



1 & 2 - Improve and repaint markings



3 - Enforce posted speeds

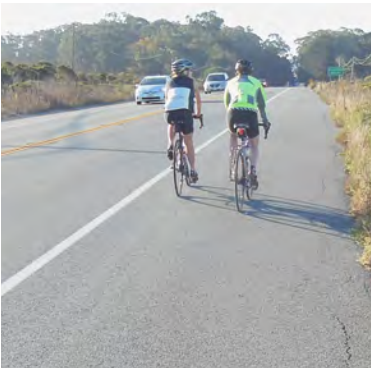


5 - Formalize path



6 - Add street furnishings

LONG-TERM:



1 - Explore shoulder paving



2 - Bike sharrows for wide curb lanes



3 - Convert to multi-use trail



4 - Resurfacing where needed



RECOMMENDATIONS - SHUBENACADIE

SHORT-TERM RECOMMENDATIONS (ORANGE)

1. Pilot a new parking layout for summer 2014 with the majority of spots on east/south side of street
2. Define entrances and exits for areas with off-street parking lots
3. Explore pavement marking for continuous pedestrian zone on the north side of street with a temporary buffer to limit parking, using temporary barriers during spring and summer months (planters or bollards)
4. Repaint crossing and improve signage at Pharmasave
5. Improve the parklet at Mill Village Rd. intersection and add pedestrian lighting

LONG-TERM RECOMMENDATIONS (BLUE)

1. Install pedestrian furnishings and lighting at Trunk 2 and Mill Village Rd intersections to improve pedestrian realm
2. Develop a new crossing at PharmaChoice and additional crossing connecting existing sidewalk on Mill Village Rd. to the Pharmasave Entrance
3. Define the new pedestrian zones on both sides of the street
4. Improve street furnishings through the village (seating, lighting, banners)

SHORT-TERM:



1 - Pilot new parking layout



2 - Define parking entrances & exits



3 - Pedestrian zone pavement marking



4 - Repaint crossing



5 - Improve parklet with pedestrian lighting

LONG-TERM:



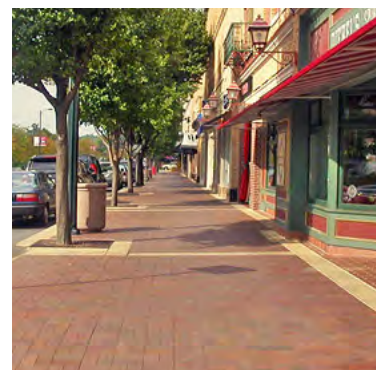
1 - Install furnishings and lighting



2 - Develop new crossing and signage



3 - Define new pedestrian zones



4 - Improve streetscaping

DEMONSTRATION - SHUBENACADIE





Detail - see page 50

210

280

Meters





- ① Re-organized and defined entrance parking layout
- ② Pedestrian zone pathway
- ③ On-street parking on one side of the street
- ④ Planters act as buffers protecting pedestrian zone
- ⑤ New pedestrian crossing at Pharmachoice
- ⑥ New paving and marking to identify pedestrian zone
- ⑦ Pedestrian lighting and street furniture

6. COST ESTIMATES

The following cost estimates outline at a high level the costs associated with improving the audit routes from an AT perspective. The cost estimates align with the short- and long-term recommendations and the vision for each route.

The recommendations include infrastructure to enable the proposed streetscape and right-of-way improvements. The estimates are based on the standard and average cost of materials. The circumstances of specific project developments may result in significant variations from these estimates, making them more suitable as general measures for planning than for detailed budgeting. Additional estimates include service fees for design, engineering and construction management services, as well as a contingency fund for unexpected costs. Note that inflation will increase project costs.

AT IMPROVEMENTS	Quantity	Unit	Cost	Notes	AT IMPROVEMENTS	Quantity	Unit	Cost	Notes
Trunk 2 - Lantz Short-term					Shubenacadie Short-term				
Bike Parking	4	250	1000		New Parking Layout			0	
Share the Road Regulatory Signage	2	400	800		Planters	131 (1 per 2.5 metres)	1500	196500	327 metres total
Wayfinding Signage	2	400	800		Zebra Crossing	4	500	2000	
Street Furniture	2	1200	2400		Parklet Improvements	1	1200	1200	
Trunk 2 - Lantz Long-term					Shubie Banners	20	300	6000	Includes bracket, assuming pole to hang from
Signalized Pedestrian Crossing	1	40000	40000		Shubenacadie Long-term				
Paved Shoulder	1000	270/m	270000		Pedestrian Lighting	13 (per 25 metres)	4000	52000	
Bicycle Sharrow and Striped Bike Lanes	3300	4.00/m	13200		South side Pedestrian Zone	400	200/linear metre	80000	
Shift Centre Lane		2.00/m		Requires further research	North side Pedestrian Zone	2400 sq feet	15/square foot	36000	Requires more detailed design 2400 square feet first area
Mount Uniacke Short-term					New Signalized Crossing	1	40000	40000	
Zebra Crossing at Seniors Home	1	400	400		Street Furnishings	4	1100	4400	
Fill Areas with pooling		1500/sq.m.			Route 214 Short-term				
Barrier at Ditch	3 metres	450/linear metre	1350		Zebra Crossing at School	1	400	400	
Vehicle Access Buffers	5 (1 per 2.5 metres)	1500	7500		Street Furniture	3	1100	3300	
Mount Uniacke Long-term					Route 214 Long-term				
Pedestrian Lighting	7 (1 per 25 m)	4000	28000	Ped x-ing to rail crossing (170m)	Shoulder Paving	1000	270/m	270000	
Shoulder Paving	1300 metres	270/m	260000	Route length (estate-high school is 1300m)	Signage	4	400	1600	
Mixed-use Trail	248 metres	200/linear metre	49600	(high school to rail crossing)	Mixed-use Trail	1000	200/linear metre	200000	

Sources:

- Halifax Regional Municipality, AT & Shoulder Paving Costing, 2012
- UNC Highway Safety Research Center, 2013
- Cities & Environment Unit & Conrad Taves Design, Inverness Conceptual Plan, 2013
- Manufacturers (e.g. Marshalls, Maglin Street Furniture), 2014

Potential funding Partners for AT Projects

Atlantic Canada Opportunities Agency (ACOA)

ACOA administers the Community Infrastructure Improvement Fund, which supports the construction of trails and bike paths (among other things). The CIIF allocation for Atlantic Canada is \$16.6 million; projects may be funded up to 50%. Applications can be made through the nearest ACOA office; the nearest offices to MEH are in Truro, Windsor, and Halifax.

<http://www.acoa-apeca.gc.ca/eng/ImLookingFor/ProgramInformation/Pages/CommunityInfrastructureImprovementFund.aspx>

Federal Gas Tax Fund

Administered through the Canada-Nova Scotia Infrastructure Secretariat, The federal Gas Tax Fund has recently been renewed; Nova Scotia's annual allocation will increase from the previous \$55 million to just under \$70 million. Funding is available for AT projects. In order to receive funding, municipalities must enter into an agreement with the province (Municipal Funding Agreement), submit a five-year Capital Investment Plan of eligible projects, and meet reporting requirements.

<http://www.nsinfrastructure.ca/pages/Gas-Tax-Fund-Distribution-of-Funding.aspx>

Green Municipal Fund (GMF) - Transportation Funding

This program originates from the Federation of Canadian Municipalities. Under the umbrella of the GMF, funding is available for transportation projects, plans, and studies that aim to shift mode share by improving AT nodes and networks. For projects, funding may be a combination of below-market-rate loans and grants; for plans and studies, funding is in the form of grants exclusively.

<http://www.fcm.ca/home/programs/green-municipal-fund/what-we-fund/projects/transportation-funding.htm>

Mountain Equipment Co-op (MEC)

MEC provides funding for non-profit organizations in support of walking and cycling. Municipalities could partner with a non-profit on specific projects. Bicycle NS and NS Trails are two potential partners.

<http://www.mec.ca/AST/ContentPrimary/Community/CommunityContributions.jsp>

Nova Scotia Department of Health and Wellness (DHW)

DHW provides several grants for the development of recreational facilities in Nova Scotia. The Facility Development Grant provides up to 1/3 of the total capital cost for projects up to \$150,000 developing facilities that promote sports and physical recreation. The description of relevant projects includes trails and "enhanced schools," both possibly applicable to East Hants.

<http://novascotia.ca/dhw/pasr/documents/Recreation-Facility-Development-%28RFD%29-Program.pdf>

For smaller-scale projects, DHW provides the Community Recreation Capital Grant program. Again, funding will cover up to 1/3 of the capital costs to a maximum of \$5000 for projects costing less than \$20,000 total. Projects must be for public, community recreation purposes and of a permanent, non-consumable nature.

<http://novascotia.ca/dhw/pasr/documents/Community-Recreation-Capital-Grant-Program.pdf>

DHW provides some funding for municipal staff working to plan and implement comprehensive plans to increase participation in health-enhancing physical activity under the Municipal Physical Activity Leadership Program.

<http://novascotia.ca/dhw/pasr/documents/Municipal-Physical-Activity-Leadership-Program.pdf>

DHW funds Provincial Recreation/Physical Activity projects, specifically identifying AT projects as a priority. Projects must be provincial in scope or have a provincial impact. The projects suggested for MEH in this report that relate to the provincial Blue Route would have the best chance of receiving funding under this program.

<http://novascotia.ca/dhw/pasr/documents/Provincial-Recreation-Physical-Activity-Project-Program.pdf>

NS Moves

NS Moves just announced opened the application process for a new round of grants. Applications that “actively demonstrate or seek to enhance sustainable transportation options for Nova Scotians” will be considered. Individual grants can be up to \$200,000.

<http://novascotia.ca/sustainabletransportation/nova-scotia-moves.asp>

Nova Scotia Tourism Agency (NSTA)

Under the Tourism Development Investment Fund, the NSTA has two possible sources of funding for specific projects in East Hants. The Competitive Edge program seeks to develop new tourist products or enhance the “market-readiness, visitor experience, or quality of existing” tourist products in the province. If it can be shown that the projects in Mount Uniacke contribute to the provincial Blue Route or the Trans-Canada Trail, this program could be a source of funding.

The First Impressions program aims to make downtown streets more welcoming to visitors. Sidewalk improvements in Shubenacadie and other village cores could benefit from this program.

<http://novascotiaturismagency.ca/tourism-development-investment-fund>

TD Green Streets Program

This program funds local urban forestry projects up to \$15000. These funds could be applicable to some improvements to streetscape improvements in MEH.

<https://fef.td.com/national-programs/td-green-streets/>

Trans-Canada Trail (TCT)

This project already has several major funding partners, including Parks Canada, Canadian Heritage, The Globe and Mail, The Claudine and Stephen Bronfman Family Foundation, RBC, Loblaw Companies, and Esri Canada. A portion of the proposed trail would connect Lantz and Shubenacadie. The TCT could thus present a possible funding partnership for the development of AT in MEH. The provincial partner for the TCT in Nova Scotia is NS Trails.

http://www.novascotiatrails.com/index.php?option=com_content&view=article&id=52&Itemid=364

<http://tctrail.ca/about-the-organization/partnerships/>

7. APPENDIX

Audit Tools & Forms:

East Hants Walking Audit Tool

This walking audit tool has been developed for the Municipality of East Hants to help communities and residents evaluate how suitable and attractive their streets are for pedestrians. It can be used by anybody with an interest in learning more about what makes streets pedestrian friendly, and what can act as barriers to pedestrians.

Using this tool, the “auditor” will conduct an assessment of a street by walking it and answering a series of questions about the route using the Walking Audit Form. After completing the assessment, the auditor will give the street segment a rating based on their personal evaluation. The auditor will also be able to record specific information about the different barriers to pedestrians they found on the route.

This audit tool is simple and easy. It helps the auditor consider several different characteristics of a street that contribute to the pedestrian environment including safety, comfort, and general appeal. Completing the audit will help East Hants learn about the type of issues that can be addressed to improve the pedestrian environment of local streets.

AUDIT PROCESS

Step 1. Plan your route

This document contains three maps that can be used to plan a walking audit. Starting on page 5, maps are provided for the village cores of Mt. Uniacke, Elmsdale, and Shubenacadie.

If you prefer to walk a different street, or section of street, you can plan your own route using Google Maps. Find the street you would like to assess, make a printout and mark on the paper where your route starts and ends. Based on an average walking speed of 5km/h, a 1km route (12 minutes) to a 2km route (24 minutes) will be manageable for most healthy adults. If you make your own route, remember to mark down which side of the street you walked, or indicate if you walked both sides of the street.

Step 2. Walk the route and keep an eye out for issues

Review the Walking Audit Form (pages 2-4) before heading out to get an idea of what you should be looking for.

Step 3. Complete the evaluation form on the next page

Step 4. Submit your form

Forms can be submitted to Sean Gillis at the Municipality of East Hants Planning Department in the Elmsdale Lloyd Matheson Centre.



WALKING AUDIT FORM

Route walked: _____ Name of auditor: _____

Side(s) of street walked: _____ Contact Info: _____

Date and time of walk: _____

Answer these 6 questions after you walk the route. Answer the questions based on how you feel about the route, not how you think somebody else might feel. Each question asks for a rating on a scale of 1-5; five is a perfect rating. After answering all the questions, tally up your score on page 4.

1. Did you have a safe place to walk?

- Yes Some problems (indicate below)
- Path was unclear (didn't know where I was supposed to walk)
 - Sidewalk or path was too narrow for pedestrians
 - Not enough separation between pedestrians and vehicles
 - Presence of obstructions in the path or sidewalk
 - Other:

Rate the safety of the street for pedestrians

1 2 3 4 5

2. Was it safe to cross the street?

- Yes Some problems (indicate below)
- Crosswalks were poorly marked, or unmarked
 - Crosswalks were too long
 - Pedestrian signal lights were too short
 - Site lines at crossings were bad (vehicles can't see pedestrians/vice versa)
 - Traffic was too heavy and/or moved too fast
 - Drivers don't watch out for pedestrians
 - Other:

Rate the safety of pedestrian crossings

1 2 3 4 5



WALKING AUDIT FORM

3. Was it easy to get to the other side of the street?

- Yes Some problems (indicate below)
- Very few intersections where traffic stops
 - Not enough crosswalks
 - Had to wait too long before crossing
 - Other:

Rate the ease of crossing the street

1 2 3 4 5

4. Were the pedestrian facilities well maintained?

- Yes Some problems (indicate below)
- Cracks in paved surface or concrete
 - Vegetation growing in the walkway
 - Water pooling on the walkway
 - Painted lines at crossings were in poor condition
 - Other:

Rate the maintenance level of the pedestrian facilities

1 2 3 4 5

5. Was the route accessible?

- Yes Some problems (indicate below)
- Crossing signals were not audible
 - Surface too rough for wheelchairs or strollers
 - Slopes are too great for wheelchairs or strollers
 - Obstructions blocking wheelchair or stroller access
 - Other:

Rate the accessibility of the pedestrian facilities

1 2 3 4 5



WALKING AUDIT FORM

6. Was the atmosphere attractive to pedestrians?

- Yes Some problems (indicate below)
- Not enough destinations
 - Landscaping was unattractive
 - Poor lighting for pedestrians
 - Too steep (route was strenuous)
 - Other:

Rate the general atmosphere of the street for pedestrians

1 2 3 4 5

Add up your score

Total Score= ___ /30

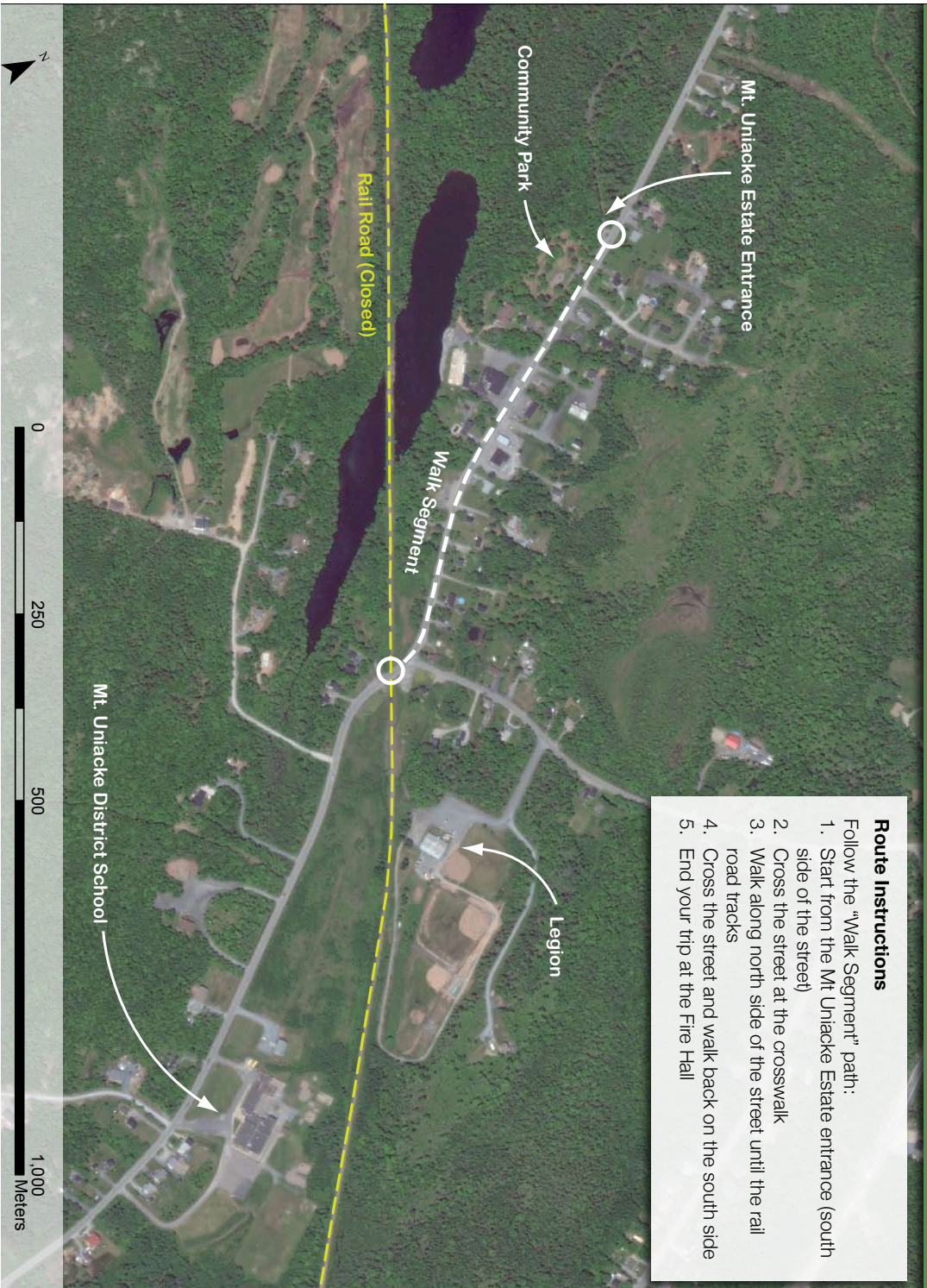
- **6-14 = Low Score:** Route was not appropriate for pedestrians
- **15-22 = Medium Score:** Route was reasonably comfortable and safe, but there were some issues.)
- **23-30 = High Score:** Route was very attractive for pedestrians

Additional Comments

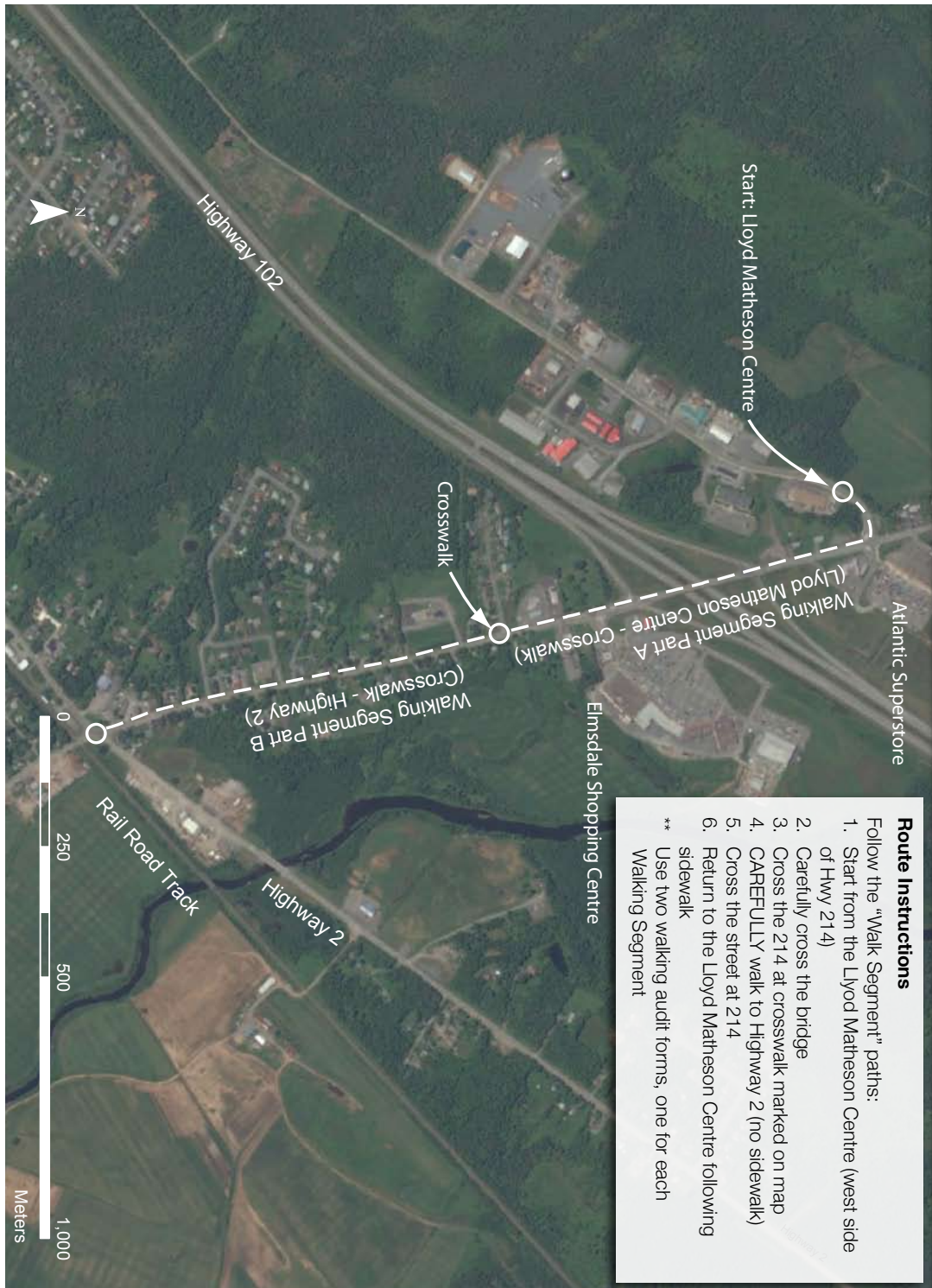
Please add any additional information that would be helpful in describing your experience.



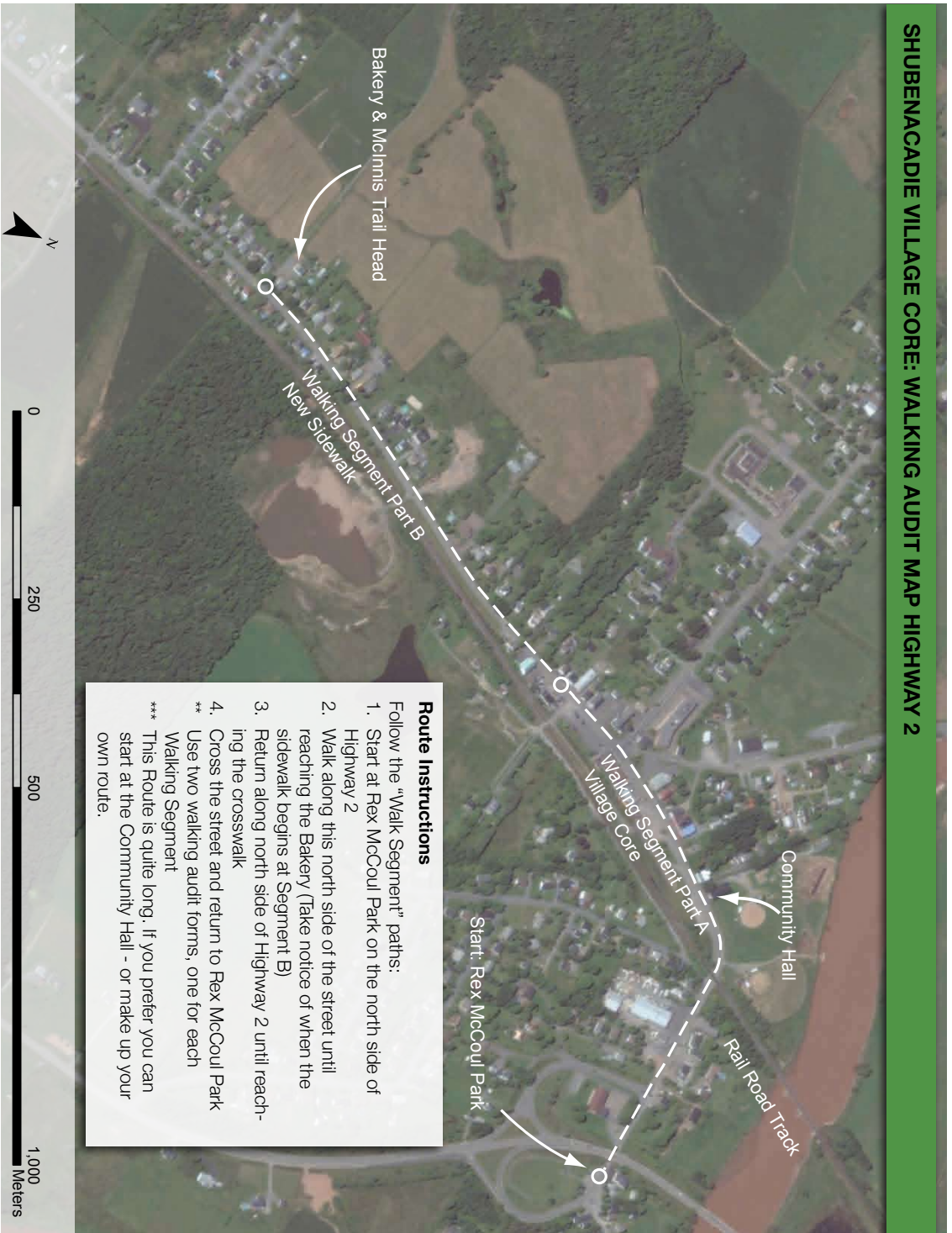
MT. UNIACKE VILLAGE CORE: WALKING AUDIT MAP



ELMSDALE CENTRE: WALKING AUDIT MAP HIGHWAY 214



SHUBENACADIE VILLAGE CORE: WALKING AUDIT MAP HIGHWAY 2



Route Instructions

Follow the "Walk Segment" paths:

1. Start at Rex McCoull Park on the north side of Highway 2
 2. Walk along this north side of the street until reaching the Bakery (Take notice of when the sidewalk begins at Segment B)
 3. Return along north side of Highway 2 until reaching the crosswalk
 4. Cross the street and return to Rex McCoull Park
- ** Use two walking audit forms, one for each Walking Segment
- *** This Route is quite long. If you prefer you can start at the Community Hall - or make up your own route.

East Hants Biking Audit Tool



The East Hants Biking Audit Tool has been developed for the Municipality to help communities and residents evaluate how suitable and attractive their streets are for cyclists. It can be used by anybody with an interest in learning more about what makes streets bicycle friendly, and what can act as barriers to cyclists.

Using this tool, the “auditor” will assess and evaluate a planned route by cycling it and answering the questions in the Biking Audit Form. After completing the assessment, the auditor will give the route a rating based on their personal evaluation. The auditor will also be able to record specific information about the different barriers to cyclists they found on the route.

This audit tool is simple and easy. It helps the auditor consider several different characteristics of a street that contribute to the cyclist’s experience including safety, comfort, and general appeal. Completing the audit will help East Hants learn about the type of issues that can be addressed to improve local streets for cycling.

AUDIT PROCESS

Step 1. Plan your route

This document contains a map of the Enfield - Elmsdale - Lantz Corridor that can be used to plan a biking audit. The route is broken up into three segments. Combined, the three segments make a 13 km return trip. Depending on the cyclist, this could be anywhere from a 50 minute to 25 minute trip.

If you prefer to audit a different area you can plan your own route using Google Maps. Find the street you would like to assess, make a printout and mark on the paper where your route starts and ends. If you plan your own route, remember to record the direction you rode, or indicate if you rode the route in both directions.

Step 2. Cycle the route and keep an eye out for issues

Review the Biking Audit Form (pages 2-4) before heading out to get an idea of what you should be looking for.

Step 3. Complete the Biking Audit Form

* Fill out three audit forms, one for each route segment, if you are auditing the Enfield - Elmsdale - Lantz route mapped in this booklet. Each segment has very different characteristics, making it useful to evaluate them separately

Step 4. Submit your form

Forms can be submitted to Sean Gillis at the Municipality of East Hants Planning Department in the Elmsdale Lloyd Matheson Centre.



BIKING AUDIT FORM

Route cycled: _____ Name of auditor: _____

Side(s) of street cycled: _____ Contact Info: _____

Date and time of ride: _____

Please tell us about your level of comfort/experience as a cyclist

- I am a confident rider who feels comfortable riding in most traffic situations
- I am an experienced cyclist but feel uncomfortable in some traffic situations
- I am a beginner or ride very rarely and feel uncomfortable in traffic

Answer the next 5 questions after you cycle the route. Answer the questions based on how you feel about the route, not how you think somebody else might feel. Each question asks for a rating on a scale of 1-5; five is a perfect rating. After answering all the questions, tally up your score on page 4.

1. Did you have a place to bicycle safely?

- Yes
- Some problems (indicate below)
 - No safe space for cyclists on the roadway
 - Road was too narrow
 - Shoulder was too narrow
 - Heavy and/or fast moving traffic
 - Too many trucks or buses
 - No space for cyclists on bridges
 - Lighting was poor along route
 - Other:

Rate the route safety

1 2 3 4 5

2. How was the surface you rode on?

- Good
- Some problems (indicate below)
 - Cracked, broken, or rough pavement surface
 - Dangerous storm drains or grates
 - Debris along the shoulder
 - Slippery surfaces
 - Pooling water
 - Bumpy or angled railroad tracks
 - Other:

Rate the route surface

1 2 3 4 5



BIKING AUDIT FORM

3. How were the intersections you rode through?

- Good Some problems (indicate below)
- Had to wait too long to cross intersections
 - Couldn't see crossing traffic
 - Unsure how to ride through intersection
 - Right turning lane cut off my path through the intersection
 - Didn't feel safe making a left turn (had to dismount and use cross walk)
 - Space for cyclists reduced at intersection
 - Other:

Rate the intersections

1 2 3 4 5

4. Did drivers behave well?

- Yes Some problems (indicate below)
- Drove too fast
 - Passed too close to me
 - Did not signal
 - Harassed me
 - Cut me off (e.g. exiting parking spots, driveways, or at right turns)
 - Ran red lights or stop signs
 - Other:

Rate the drivers' behaviour

1 2 3 4 5

5. Was the route convenient and pleasant?

- Yes Some problems (indicate below)
- No signs showing me where to go
 - No secure place to park my bike at destinations
 - Not enough destinations and/or attractions
 - Route was too hilly
 - Scenery was unattractive
 - Other

Rate the route's convenience and attractiveness

1 2 3 4 5



BIKING AUDIT FORM

Add up your score

Total Score= __ /25

- **5-11 = Low Score:** Route did not feel appropriate for cycling
- **12-18 = Medium Score:** Route felt reasonably safe and comfortable for cycling, but there were some issues
- **19-25 = High Score:** Route felt very attractive and safe for cyclists

Additional Comments

Please add any additional information that would be helpful in describing your experience.

Tool adapted from: US Department of Transportation Bikeability Checklist: <http://www.bicyclinginfo.org/library/details.cfm?id=3>



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November, 2013



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