CITY OF BURLINGTON

RURAL ACTIVE TRANSPORTATION PLAN

NOVEMBER 2022

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CITY OF Burlington

Executive Summary

Burlington's rural area is host to a mix of uses, from agricultural and industrial to residential communities, and ecological areas. The escarpment running through the area provides for a unique, hilly landscape. Not only do people in the area want to get around and explore their area, people from Burlington and the Greater Toronto Area all want to be able to access and enjoy the landscape and opportunities that the area provides. Access to and through the area is not always easy as existing roads are designed primarily to support car traffic.

The Burlington Rural Active Transportation Plan is intended to provide a framework for how the City can support people accessing and moving through the rural area by walking and cycling. The COVID-19 pandemic saw more people than ever looking for opportunities to explore the areas around them, and a bike boom where people are cycling more and more. Improving access for people using active transportation will help to reduce dependence on cars, providing a more equitable transportation system.

During the planning process, the public was engaged on if and how they use active transportation in the rural area, and what kinds of improvements they want to see. The plan builds on this feedback by supporting people taking their dog for a walk, to people getting exercise, and people wanting to be able to more easily get to the Bruce Trail and Greenbelt routes. Feedback from people all across Burlington showed support for the plan recommendations and interest in the City taking initiative to support active transportation users.

The plan considers the different types of users who use active transportation in the rural area, including people of all ages and abilities as well as recreational users, to develop recommendations to suite both kinds of users. This will enable new opportunities for people who may not currently feel safe or comfortable to access the rural area. It will also support and improve conditions for the people who are already using the area.

The recommendations from this plan will be used along with the Cycling Plan to inform the City's Integrated Mobility Plan which will provide a strategic, coordinated approach for planning and designing the City's transportation systems.

Acknowledgements

Land Acknowledgement

Burlington as we know it today is rich in history and modern traditions of many First Nations and the Métis. From the Anishinaabeg to the Haudenosaunee, and the Métis – our lands spanning from Lake Ontario to the Niagara Escarpment are steeped in Indigenous history.

The territory is mutually covered by the Dish with One Spoon Wampum Belt Covenant, an agreement between the Iroquois Confederacy, the Ojibway and other allied Nations to peaceably share and care for the resources around the Great Lakes.

We would like to acknowledge that the lands to which this plan applies are part of the Treaty Lands and Territory of the Mississaugas of the Credit.

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1 INTRODUCTION

The City of Burlington developed a Rural Active Transportation Plan in order to create safe walking and cycling options in rural Burlington. Having safe and connected active transportation infrastructure allows for people to access recreational and green space in rural Burlington through walking, cycling, or any other form of non-motorized transportation.

Rural Burlington has a unique set of challenges and opportunities that this plan addresses through the following:

- Identifying opportunities to enhance safety
- Provide realistic, cost-effective options to enable active transportation
- Identifying missing links and barriers to active transportation
- Improving the safety of Bruce Trail crossings

What Do We Mean by Active Transportation?

Active transportation is a term used to cover many of the different ways humans can move around that involve using their own power, such as walking, jogging, cycling, wheeling, skiing and skating. For this plan, we are focusing on active transportation modes that take place within the road right-of-way.

It is important to recognize that active transportation users do not all want the same thing. Road cyclists often welcome some challenging hills for their ride, as long as they have smooth paved roads, while people hiking or mountain biking seek out unpaved trails that are away from roads to be in a natural setting. Even among people who enjoy road cycling, many riders are not comfortable cycling on roads with fast traffic speeds and high traffic volumes. Typically, the preference would be to use a physically separated multi-use path. Other people with more experience cycling tend to prefer to ride on the road with a preference for a paved shoulder. Ultimately, this project is about identifying improvements to create opportunities for both these types of people to be able to get out and enjoy the beauty of rural Burlington, in addition to people walking their dogs or connecting people to the Bruce Trail.

In understanding the different users and their facility preferences, this plan will provide a strategy for how and where the City of Burlington should prioritize investment in infrastructure. The plan will also cover how these facilities can be supported through maintenance and operations activities. The plan will also identify locations for small improvements to improve the conditions for people using active transportation to access green space, and generally creating a more attractive environment for people in rural Burlington.

The plan will also address policy and program recommendations to support, encourage, and engage people to use active transportation modes in rural Burlington.

This project also includes safety reviews of existing Bruce Trail road crossings, with recommendations for how these crossing can be improved.

A person walking a dog on a multi-use path

Why a Rural Strategy?

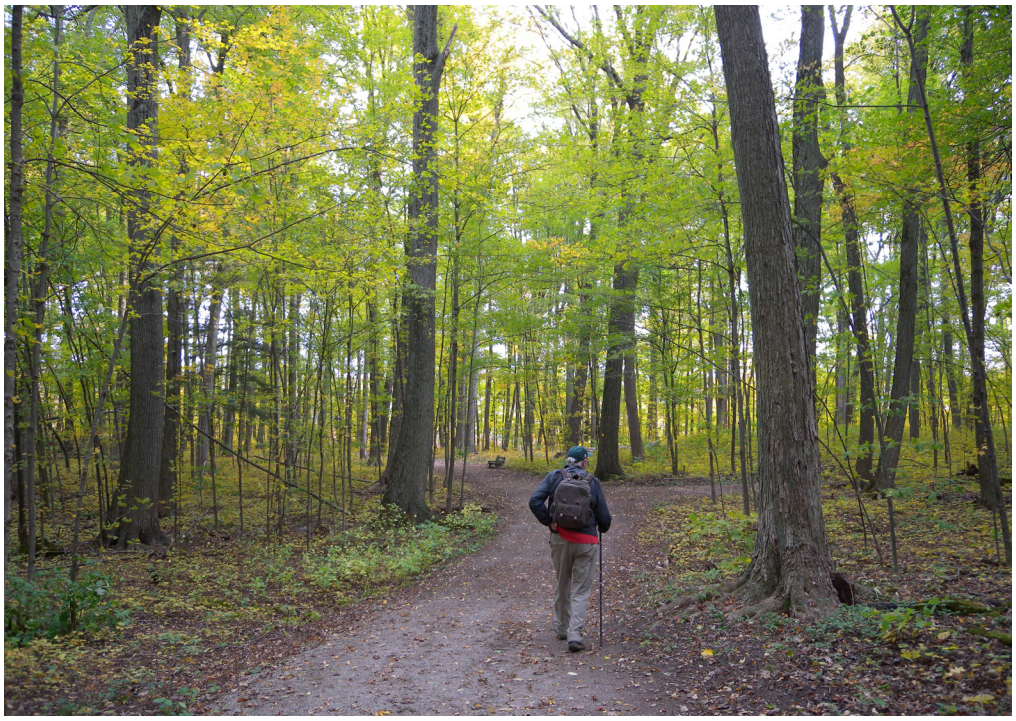
The City of Burlington decided to undertake a separate study for the rural Burlington area from the city-wide Cycling Plan study due to the unique context of north Burlington from the rest of the city. Some factors that make it different from the rest of the city include:

- Land use – agricultural, sparsely populated
- Connecting rural hamlets and subdivisions
- Longer trip distances – destinations are spread out
- High traffic speeds
- High number of recreational users
- Bruce Trail
- Access to Greenbelt and Niagara Escarpment lands
- Road characteristics (narrower, lack of shoulders/presence of ditches, and established roadside vegetation

Vision and Study Objectives

A vision helps to define the intention of the strategy and inspire people toward achieving its direction. The City's initial vision for the strategy as established at the outset of this project is:

An active transportation network within rural Burlington is achieved through the implementation of pedestrian and cycling facilities that allow users of all ages and abilities to comfortably and conveniently use active transportation for their transportation needs.



A person walking on the Bruce Trail in rural Burlington

The objectives of the strategy are developed from the vision as actionable directives that support and work towards the vision. The objectives for the strategy at the outset of the project are:

- To develop and recommend a network of active transportation facilities that are considered comfortable by all users and skill levels, improve the active transportation experience in rural Burlington, and serve a true transportation function
- To build upon and expand the current pedestrian and cycling network in rural Burlington and identify missing links in the existing transportation network as it pertains to active transportation
- To identify key physical barriers to walking and cycling (other than distance), and recommend solutions to removing these barriers
- To base the development of the active transportation network on global best practice research, and recommend design guidance and design criteria that is context-sensitive to the rural environment which can be uniformly applied throughout Burlington
- Review key crossing locations of the Bruce Trail to confirm appropriateness of crossing location and identify potential measures to improve trail user safety, where necessary
- To prioritize improvements in the active transportation network for strategic implementation
- To develop a strategic action plan that guides the short, medium and long-term implementation of the rural active transportation network

Through consultation with Councillors, staff, and the public, it was determined that the plan should also consider recreational users, improving access to rural recreational opportunities, who may have different needs and attributes than those of all ages and abilities. This will be explored further in the Approach to Network Development section.

Resources for Rural Contexts

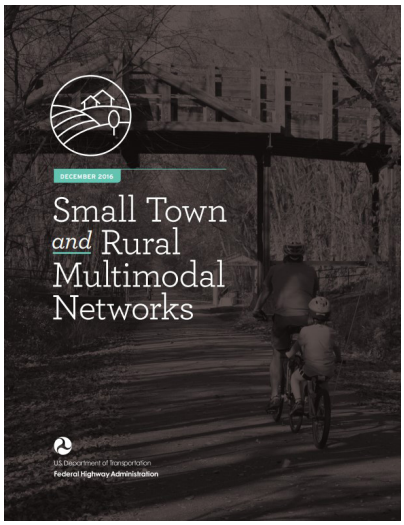
To support the development of ideas and recommendations for this plan, resources that provide guidance for rural context were identified.

Ontario Traffic Manual, Book 18: Cycling Facilities (2021)

The recently updated provincial cycling facility design guidance includes contextual guidance for rural areas. The document includes detailed guidance for the appropriate width and buffer of paved shoulders, and facility selection guidance with considerations for different types of people cycling.

Federal Highway Administration (FHWA) Small Town and Rural Multimodal Networks Guide (2016)

The FHWA guide is a design resource and idea book, intended to help small towns and rural communities support safe, comfortable, and active travel for people of all ages and abilities. It addresses challenges specific to rural areas, recognizes how many rural roadways are operating today, and focuses on opportunities to make incremental improvements despite the geographic, fiscal, and other challenges that many rural communities face. The guide is free and accompanied by an interactive website www.ruraldesignguide.com that can be used to review facility types and examples of treatment opportunities for rural areas.

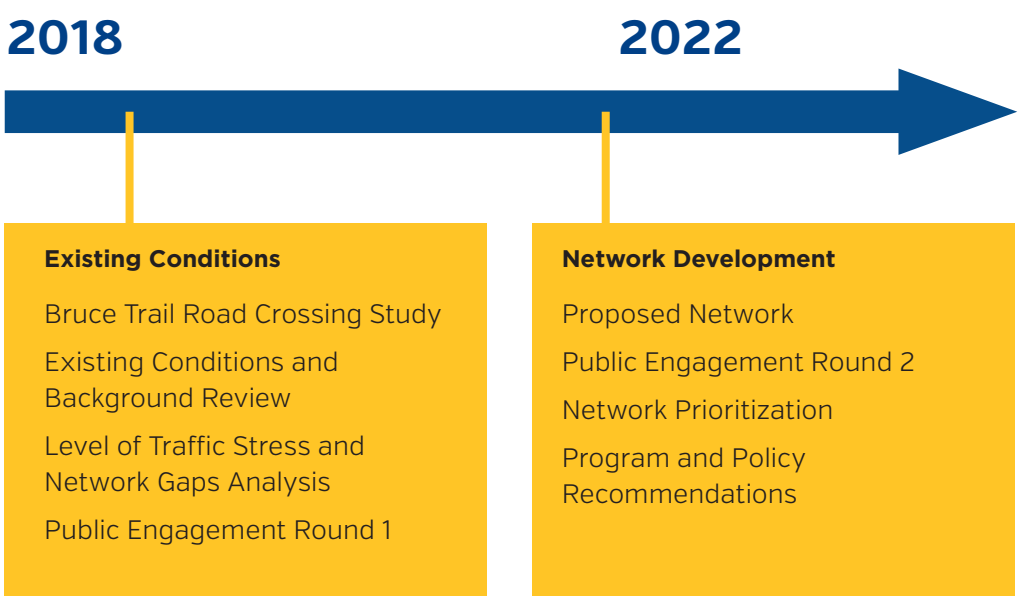


Active Transportation Planning Beyond the Greenbelt: The Outer Ring of the Greater Golden Horseshoe Region (2017)

This book, produced by the The Centre for Active Transportation (TCAT) in partnership with Ryerson University and the University of Toronto, features 13 municipalities in the "Outer Ring" of the Greater Golden Horseshoe (GGH) Region that have improved conditions for walking and cycling over the past five years in contexts that are different from the more urbanized locations in the region. Twelve of the 13 have active transportation master plans, or are in the process of developing one. Rail trail conversions, former rail lines repurposed as multi-use paths for walking and cycling, are important pre-existing features in these jurisdictions (none were built recently therefore none are featured). Rural Burlington is a part of the GGH and is experiencing similar growth pressures as some of the case studies referenced in the book.

Study Process

A general outline of the study process for the cycling plan is shown below. The planning process was extended over many years due to timing of other projects such as the City's Cycling Plan and Integrated Mobility Plan. The COVID-19 pandemic further interrupted the process.



Study Considerations

Public Input - engagement with the community to determine where people are currently riding, and where they want to ride. If they aren't riding – why not? What are the barriers to cycling within the City?

Destinations – City and Regional destinations such as schools and parks were considered and identified.

Existing Active Transportation Facilities – Existing City and Regional active transportation facilities were identified, such as paved shoulders, sidewalks, and trails. Additional facilities such as the Bruce Trail route, and Greenbelt Cycling Route were also included.

Road Information – Key information about the roads within the Rural area was identified and considered through the planning process, including:

- Speed limits
- Vehicle volumes (Average Annual Daily Traffic (AADT))
- Number of vehicle lanes
- Presence of shoulders

Connectivity – connecting people to places and ensuring access to major destinations within the City, as well as connecting to neighbouring municipal active transportation networks

Collision Data – Cyclist- and pedestrian-involved collision data from 2012-2018 was reviewed and analyzed to identify road segments that have a higher frequency of collisions.

Available Rights-of-Way (ROW) – Rights-of-way include the property corridors that are publicly-owned. These were reviewed and considered to identify any opportunities or constraints for the development of active transportation facilities.

Desirable and Popular Routes – Strava is a popular application used to track and record physical activity. It is most commonly used for recreational cycling rides. The application publicly releases anonymized user data through its Heatmap. This was reviewed to identify which routes are more popular for recreational cycling.

Context Sensitive Design – selection of facility type based on user profiles and recognizing the recreational, utilitarian and commuter characteristics of each, as well as road types and characteristics

Community Engagement

Round 1

During 2019, two extensive workshops were held for members of the public who were interested in learning more about rural active transportation and to take part in the planning process. One workshop was held on Saturday February 2nd during the day, and another workshop was held on Thursday March 7th in the evening. Both workshops were held at Conservation Halton. Attendees at the workshops varied from residents in the rural area, from the urban area, and from surrounding municipalities.

During the workshops, attendees were involved in interactive activities to understand where people go, and would like to go. We also heard about people's preferences and comfort level using the roads in their current conditions for active transportation. Extensive notes were collected at both workshops.

Map network activity at a public workshop during Round 1

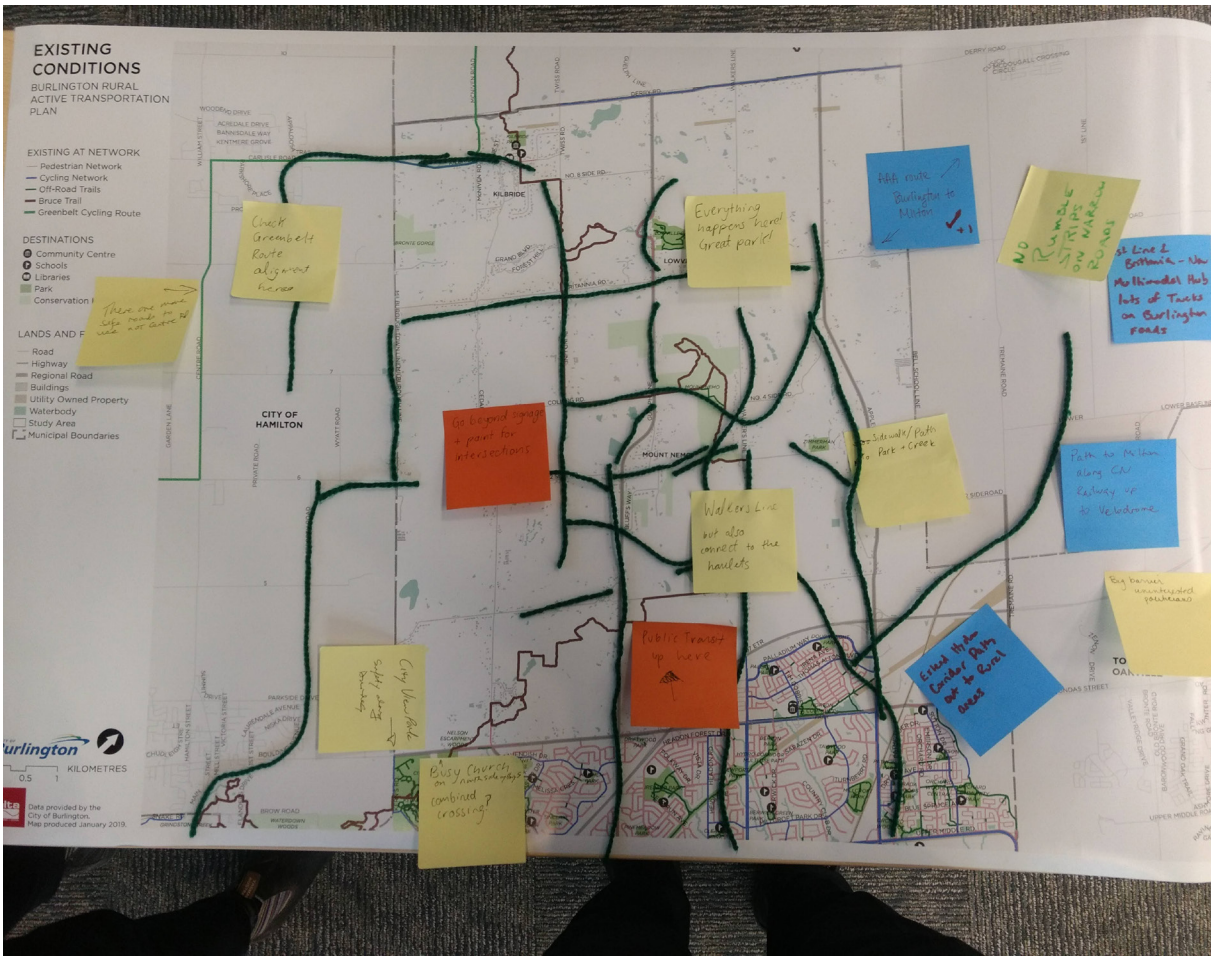
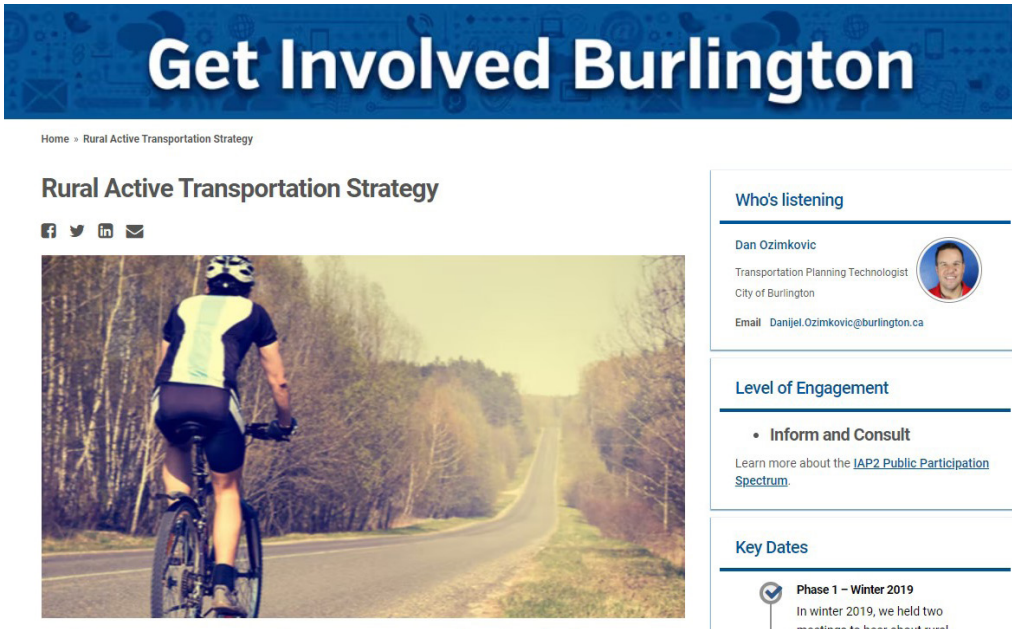


Photo of interactive network activity during Round 1 workshop, where people identified different routes they are interested in

Round 2

An **online survey** was conducted to acquire public feedback in the second phase, completed in winter 2021-2022. People were able to add pins to an interactive map of the recommended network to provide feedback, complete a survey, and submit comments directly to the project team. This feedback helped refine the recommended network and identify additional measures and recommendations for the plan. The survey received feedback from people in all of the City's wards.

A majority of survey respondents indicated that the recommended network would improve access and comfort for people using active transportation in the rural area.



Get Involved Burlington webpage during Round 2

2 EXISTING CONDITIONS

The Rural Area

The Rural Area, which is the subject of this plan includes the areas north of Dundas Street (Regional Road 5) and Highway 407, and bounded by the City's boundaries along Milburough Line to the west, Derry Road to the north, and Bell School Line and Tremaine Road to the east. The Rural Area includes parts of wards 3 and 6. The rural North Aldershot Planning Area is not part of the study area of this plan.

Burlington's Rural Area includes the Rural Settlement Areas of Kilbride, Lowville, and Mount Nemo. Outside of those areas is a mix of agricultural land, mineral resource extraction, rural estates, golf courses, and natural areas. The Niagara Escarpment runs through the study area which includes dramatic hilly terrain with exposed limestone cliffs. Areas within the escarpment are subject to the Niagara Escarpment Commission Plan.

The natural and agricultural landscapes and the escarpment terrain of the Rural Area have made it an attractive place to visit for people from around the region. Mount Nemo Conservation Area, Lowville Park, and the Bruce Trail are popular destinations. The terrain and rural character that is accessible to nearby urban areas also makes the area very attractive for recreational cycling. The nearby location of the Mattamy National Cycling Centre in Milton has further made the Rural Area a popular location for recreation cycling.

Photo of the Niagara Escarpment in rural Burlington

Background Information

This section provides context the information available as part of this project, existing conditions analysis, and the feedback from the first round of community engagement. The first round involved public workshops to present on the subject of rural active transportation, existing conditions, and to understand more about what the public would like to see come from this plan.

Official Plan

The City's Official Plan identifies specific principles, objectives, and policies for the Rural Planning Area, which is the same as this plan's study area. The Official Plan directs that the Rural area is intended to be prioritized for farming and preservation of natural features.

Niagara Escarpment Plan

The Niagara Escarpment Plan (NEP) is a large-scale environmental land use plan with Provincial approval. The plan defines what kind of land uses are permitted within the area, which includes Rural Burlington. This includes the types of recreational activities that are permitted. Projects in this plan will need to adhere to the NEP requirements when being designed and implemented.

Halton Region Active Transportation Plan

Halton Region owns and maintains all major arterial roads within north Burlington, which includes Dundas Street (Regional Road 5), Guelph Line (Regional Road 1), Appleby Line (Regional Road 20), Milburough Line (Regional Road 24), Derry Road (Regional Road 7), and Tremaine Road (Regional Road 22) north of Dundas Street. The Region has planned the widening of Dundas Street from four to six lanes that will include a combination of on-road bike lanes and multi-use paths. All other Regional roads within rural Burlington are planned to remain at two lanes, except for Tremaine Road, which is planned to be widened to four lanes, by 2031 based on their plan. This plan does not include recommendations for regional roads.

The Bruce Trail

The Bruce Trail is a 890 km footpath that travels along the crest of the Niagara Escarpment. The trail runs through the study area, from City View Park, through Mount Nemo Conservation Area, and through Kilbride. Sections of the trail route are along roads. The trail is established through the non-profit conservancy purchasing land or through handshake agreements with landowners to allow for the trail to travel through their land. This study specifically looks at how to improve safety where the trail crosses roads, specifically looking at City-identified crossing locations, and how to support people using active transportation to access the trail.

City Capital Works Plan

The City has a 10-year Capital Works Plan to coordinate and budget for planned infrastructure projects. These projects can range from road resurfacing to reconstruction and present an opportunity for the City to improve the impacted corridor. This plan will seek opportunities to coordinate with the Capital Works Plan.

City's Paved Shoulder Assessment (2017)

The City completed a study examining the potential and feasibility for implementing paved shoulders on City-owned roads within the Rural area. The Burlington Cycling Advisory Committee (BCAC) provided their analysis to contribute to the City's study. The study prioritizes which segments of roads are highest priority for the implementation of paved shoulders based on the variables of active transportation priority, construction feasibility, and capital and life cycle costs.

The Greenbelt Route

The Greenbelt Route is a 475 km cycling route through the Greenbelt around the Greater Golden Horseshoe. The route is signed along existing roads and trails, and provides options for loops and day-long routes. The route runs along Kilbride Street and McNiven Road in the northwest corner of the study area.

Existing Facilities

The following types of active transportation facilities currently exist within the Rural Area.

Sidewalks

Sidewalks are designated spaces for people to walk or use a mobility device. Because they are raised above the roadway, they are more common along urban road cross-sections where water runoff from the road is directed into sewers instead of a ditch beside the roadway. There are a few locations with sidewalks in the Rural Area including:

- Guelph Line around Britannia Road
- Kilbride Street from McNiven Road to Carriage Trail

Sidewalk on Kilbride Street (Google)

Paved Shoulders

Paved shoulders are visually separated areas at the edge of roadways. They are not reserved for any specific use, but commonly provide space for people walking and cycling along a road. Examples of where there are currently paved shoulders are:

- Cedar Springs Road from Britannia Road to Kilbride Street
- Derry Road from Twiss Road to Bell School Line

Paved shoulder on Cedar Springs Road

Shared Routes

Shared routes are a type of mixed traffic cycling treatment. Sharrow markings are installed where cyclists should be on the roadway and provide directional guidance along with signage. Examples include:

- Kilbride Street from Milborough Line to McNiven Road

People are still permitted to walk and cycle along roads without facilities, but these may be less attractive depending on the user and road context. The existing facilities are shown on Map 1.

Shared route with sharrow markings

EXISTING CONDITIONS

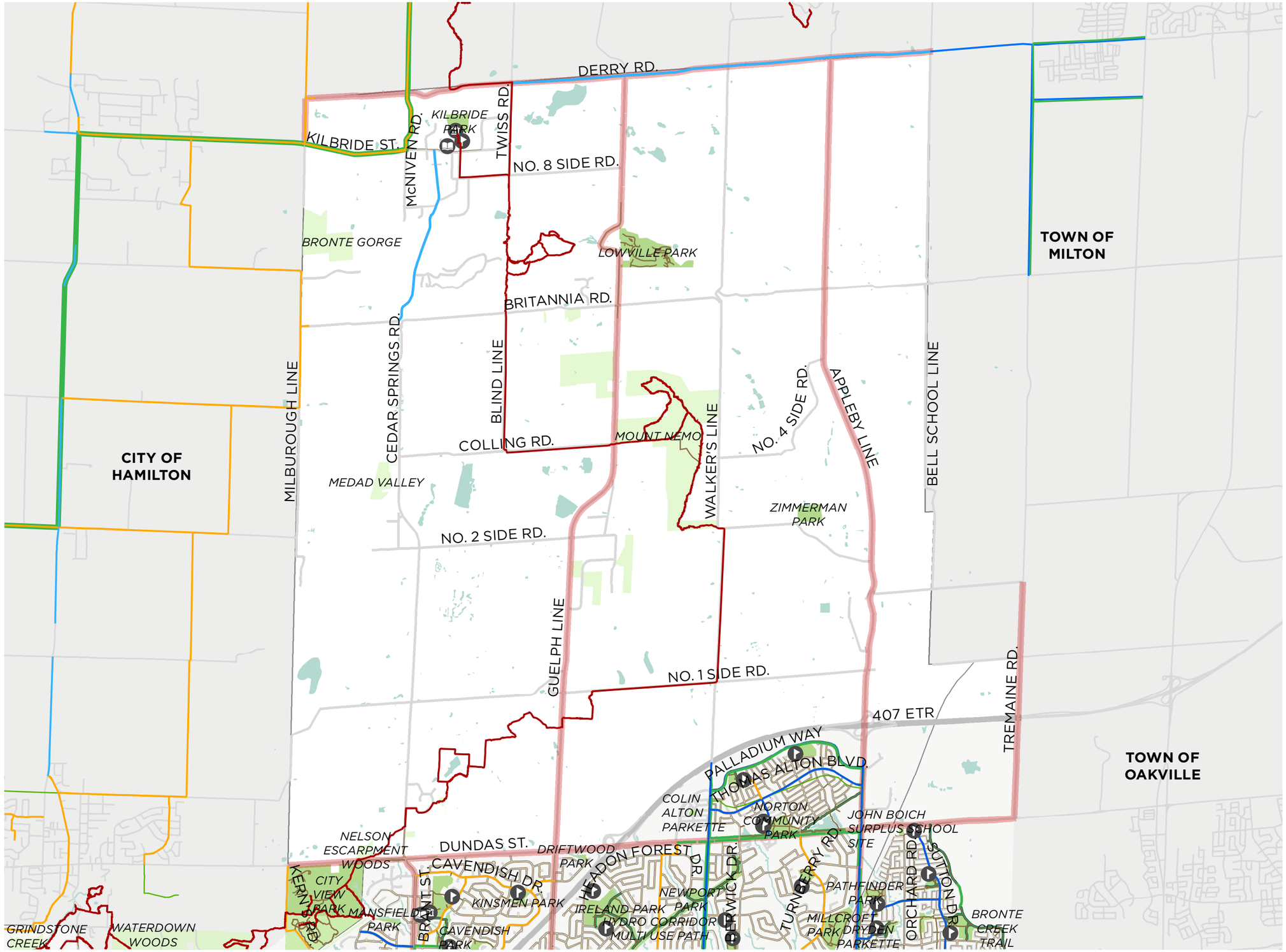
BURLINGTON RURAL ACTIVE TRANSPORTATION PLAN

EXISTING FACILITIES

- Multi-use Path
- Multi-use Trail
- Painted Bike Lane
- Paved Shoulder
- Shared Route
- Pedestrian Network
- Greenbelt Cycling Route
- Bruce Trail

LANDS AND FEATURES

- School
- Library
- Community Centres
- Road
- Highway
- Regional Road
- Railway
- Conservation Halton Land
- City Park
- Water Feature
- Study Area
- Municipal Boundaries



CITY OF Burlington

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Data provided by the City of Burlington.
Map produced June 2021.

Wayfinding along the Bruce Trail

Level of Traffic Stress

Level of Traffic Stress (LTS) is an analysis which has been developed to evaluate the experience of cycling on roads based on their current characteristics, including number of lanes, speed, traffic volumes, and presence and type of cycling facility. LTS was completed as part of this plan to help understand the experience of cycling on the roads in the Rural Area. LTS assigns a score to a roadway based on how stressful it would be to cycle on that roadway. The scores range from 1 to 4, with 1 being low stress, and 4 being high stress.

Due to the high speed limits and operating speeds that vehicles travel in the Rural Area, and lack of facilities, much of the road network is higher stress. Only people who are more confident and have more experience cycling will be likely to use these roads.

The potential impact of cycling facilities is visible on reducing the LTS score, for example the paved shoulders on Cedar Springs Road north of Britannia Road is LTS 2. The current vehicle volumes and speeds can be so high that some facilities such as paved shoulders do not have an impact on the LTS score, as is the case for Derry Road. To achieve a lower LTS score there, lowering the speed, reducing traffic volumes, or building a physically separated cycling facility, such as a multi-use path would be necessary.

Collision Review

As part of reviewing existing conditions, the reported collisions for the 5 year perioud from 2013-2018 were reviewed. The segment of Walker's Line at Britannia Road has experienced the most collisions in the rural area, with 12 reported. The Cedar Springs Road segment between Colling Road and Britannia Road had the second most reported collisions with 8. Overall the corridors with the most collisions are Walker's Line (33), Cedar Springs Road (26), and No. 1 Side Road (17).

LEVEL OF TRAFFIC STRESS

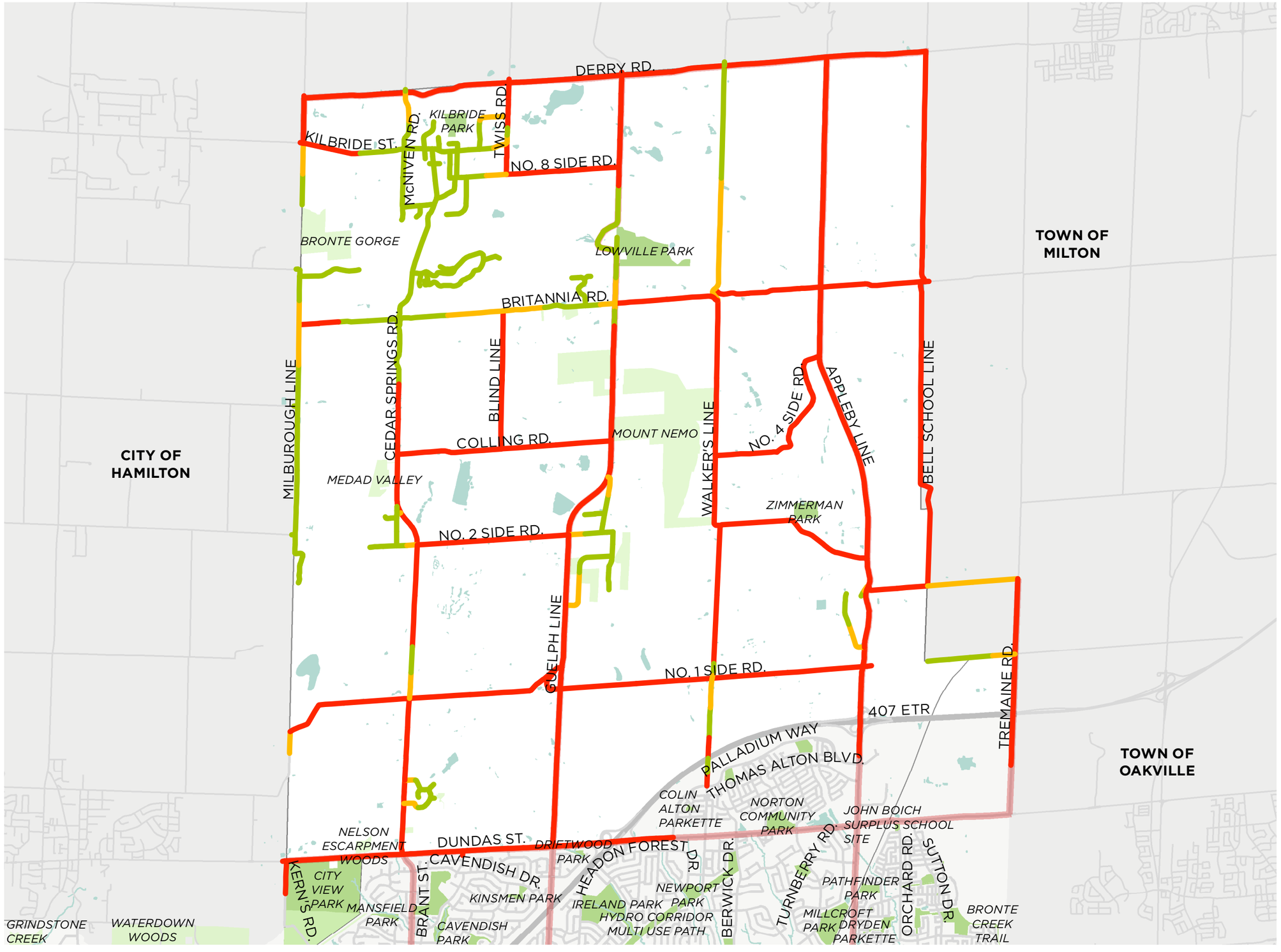
BURLINGTON RURAL ACTIVE TRANSPORTATION PLAN

LEVEL OF TRAFFIC STRESS

- Low Stress
- High Stress

LANDS AND FEATURES

- Road
- Highway
- Regional Road
- Railway
- Conservation Halton Land
- City Park
- Water Feature
- Study Area
- Municipal Boundaries



CITY OF Burlington

0 1 2 KILOMETRES

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Data provided by the City of Burlington.
Map produced June 2021.

3 RECOMMENDATIONS

The recommendations include facilities for a network of active transportation facilities, programs, and policies to support and promote active transportation. The recommendations were developed keeping in mind both types of users.

Types of Users

There are two main types of users that have been considered in creating the rural active transportation network. Different approaches to developing the network were used for each type of user.

All Ages and Abilities

All ages and abilities users include people walking and cycling from a wide range of ages, comfort levels, and abilities. This also covers people who may be interested in cycling, but are concerned. The all ages and abilities network has been informed by the following principles:

- Link urban and rural Burlington by providing a continuous route between the two regions. This is the "spine" route of the network
- Connect the hamlets by providing a link from the spine route to the three rural settlement areas of Kilbride, Lowville and Mount Nemo. This will help facilitate active transportation between the settlements and the urban area
- Enable safer movement within hamlets by providing safety improvements within the rural settlement areas to facilitate active transportation
- Improve spot issues based on public or stakeholder feedback

Recreational

Recreational users are those who are generally looking for the following qualities: looped routes, connections to other networks, low traffic volumes, and a comfortable experience. The recreational network was informed by the following principles:

- Upgrade desired routes based on public feedback suggesting certain routes and the Strava heat map which showed relative popularity of certain routes
- Make connections to outside routes and facilities, such as the Greenbelt Cycling Route or the National Cycling Centre in Milton

In order to provide opportunities for both of the identified user types, the draft network takes into consideration their unique needs.

Recommended Facility Types

Based on the scale of the study area, the network has been developed by identifying recommended facility and treatment types for routes throughout the area. The following facility types are most appropriate for rural areas, however, the design of each facilitiy should consider the conext during implementation.

Multi-use Path

Multi-use paths are two-way facilities that are physically separated from, but directly beside the roadway. They are for pedestrians, cyclists, and other non-motorized low-speed users, and should be at least 3.0 metres wide. They are ideal for high-volume roads with medium-high speeds. In the draft rural active transportation network, a multi-use path is proposed for Cedar Springs Road, which is the major spine that connects urban and rural Burlington.

Multi-use path in Chelsea, QC

Multi-use path in Gatineau, QC

Paved Shoulders

Paved shoulders are located to the right of the traffic lanes. Their width should range from 1.5 m to 3.0 metres (beyond the white edge line), depending on the speed limit and traffic volumes. A buffer strip should be provided between the vehicle lane and the shoulder to provide greater separation between users for roads with greater speed limits and traffic volumes. Paved shoulders can be used by cyclists (one-way) and pedestrians (two-way) alike. Paved shoulders are proposed for major recreational links, such as Britannia Road and Walker's Line.

Paved shoulder in Chelsea, QC

Paved shoulder in Ottawa, ON

Sidewalks

Sidewalks are intended for pedestrians and people using mobility aid devices and should have a minimum width of 1.8 metres. Sidewalks are recommended on roads with medium-high volumes of vehicles, where vehicles speeds exceed 30 km/h, or to provide a connection to a key destination. In the recommended rural active transportation network, sidewalks are proposed for certain roads in the hamlets of Kilbride and Lowville.

Sidewalk with vegetative planter

Sidewalk next to cycle track

Traffic Calming and Other Measures

Traffic calming is the term used to describe a range of measures to slow traffic on roads. Wider rural roads, that are long and straight are common conditions where drivers feel more comfortable traveling at higher vehicle operating speeds. Measures need to go beyond lowering speed limits to design the road for the speeds that vehicles are expected to travel at. In rural areas the types of measures that might be used include a combination of:

- Pavement marking and signage
- Road narrowing
- Vertical and horizontal deflection
- Access restriction
- Enforcement and education

The City has a traffic calming policy which it uses to determine whether roads are appropriate for traffic calming, and whether the road is a priority. Some measures would not fall within this policy but would still achieve the benefits of traffic calming.

One approach to be considered is the use of advisory shoulders (known as advisory bike lanes in OTM Book 18). Advisory shoulders visually delineate space for walking and cycling on a narrow roadway, where the centreline is removed. This requires motor vehicles to share the centre travel lane, requiring caution and yielding when passing another vehicle or overtaking someone walking or cycling on the shoulder. This treatment would formalize what is happening already on shared roadways through visual markings.

Advisory shoulder in Hanover, NH (Photo: Western Transportation Institute)

In addition to the above facilities, other treatments can be used to facilitate active transportation. This could include bike route signage and wayfinding, which helps facilitate orientation and navigation on the active transportation network. Traffic calming measures are proposed for both rural and hamlet roads identified in this plan.

Intersection Improvements

These are specific locations where changes to the roadway can be made to make them safer or function better. In addition to these facility types, appropriate intersection improvements and other site-specific improvements should be made to provide a safer environment for active transportation users. In the recommended network, intersection improvements are proposed at Walker's Line and Britannia Road and Cedar Springs Road and Britannia Road.

Regional Roads

It is recognized that Halton Region roads (Guelph Line, Appleby Line, Tremaine Road, Milburough Line and Derry Road) play an integral transportation role in rural Burlington. As per the Region's Active Transportation Master Plan, as the Region reconstructs/resurfaces rural roads, there is an opportunity to widen and pave shoulders and contribute to the proposed active transportation network. The Burlington Rural Active Transportation plan intends to provide facilities for all ages and abilities. On high-speed and high-volume roads, additional separation for cyclists and pedestrians of all ages and abilities is desirable, such as via a multi-use path or alternate low-volume/speed route. This plan will consider alternate routes on City of Burlington roads to provide active transportation connections. The Regional roads will supplement the City of Burlington's rural active transportation network.

Moving Forward

Physically separated facilities, such as multi-use paths, provide separation for vehicular traffic, and thus provide increased comfort and can accommodate a variety of ages and abilities. However, physically separated facilities can represent a significant capital cost and can be disruptive to the rural character. This network is a directive for achievable active transportation improvements in the rural area recognizing that some physically separated facilities will only occur in the longer-term scenario beyond the horizon of this plan. The City should consider longer-term planning and policy to provide physically separated facilities for all ages and abilities throughout rural Burlington. As the City approves new rural development, new roads and existing roads should have separated facilities as part of a longer-term policy beyond the horizon of this plan. New facilities should also be built as opportunities present themselves through development.

Photo of a scenic lookout location in rural Burlington

Recommended Network

The Recommended Network envisions a connected network of active transportation facilities in the Rural Area. It is informed from the existing conditions, including the Level of Traffic Stress analysis and Collision Review. The network includes facilities for both all ages and abilities and recreational users that aligns with the City, Region, and other agencies plans. The network includes many smaller projects that will be achievable in the shorter term, while also including bigger projects.

The multi-use path along Cedar Springs Road is a key feature of the network, which will provide an all ages and abilities facility for people to walk and cycling from the City into the Rural Area. It will create a low stress connection to Kilbride and the Greenbelt Cycling Route, expanding the potential types of users to connect to and from Burlington.

Bruce Trail Crossing Safety Study

Five Bruce Trail road crossings were studied for their safety as part of the work to develop the Rural Active Transportation Plan. The study included site visits and observations at each of the crossing locations. The study made recommendations for improvements, including improving signage to make oncoming drivers more aware of the crossings, improved maintenance to improve sightlines, and longer-term considerations to relocate crossings.

Photo at a Bruce Trail road crossing location

RECOMMENDED NETWORK

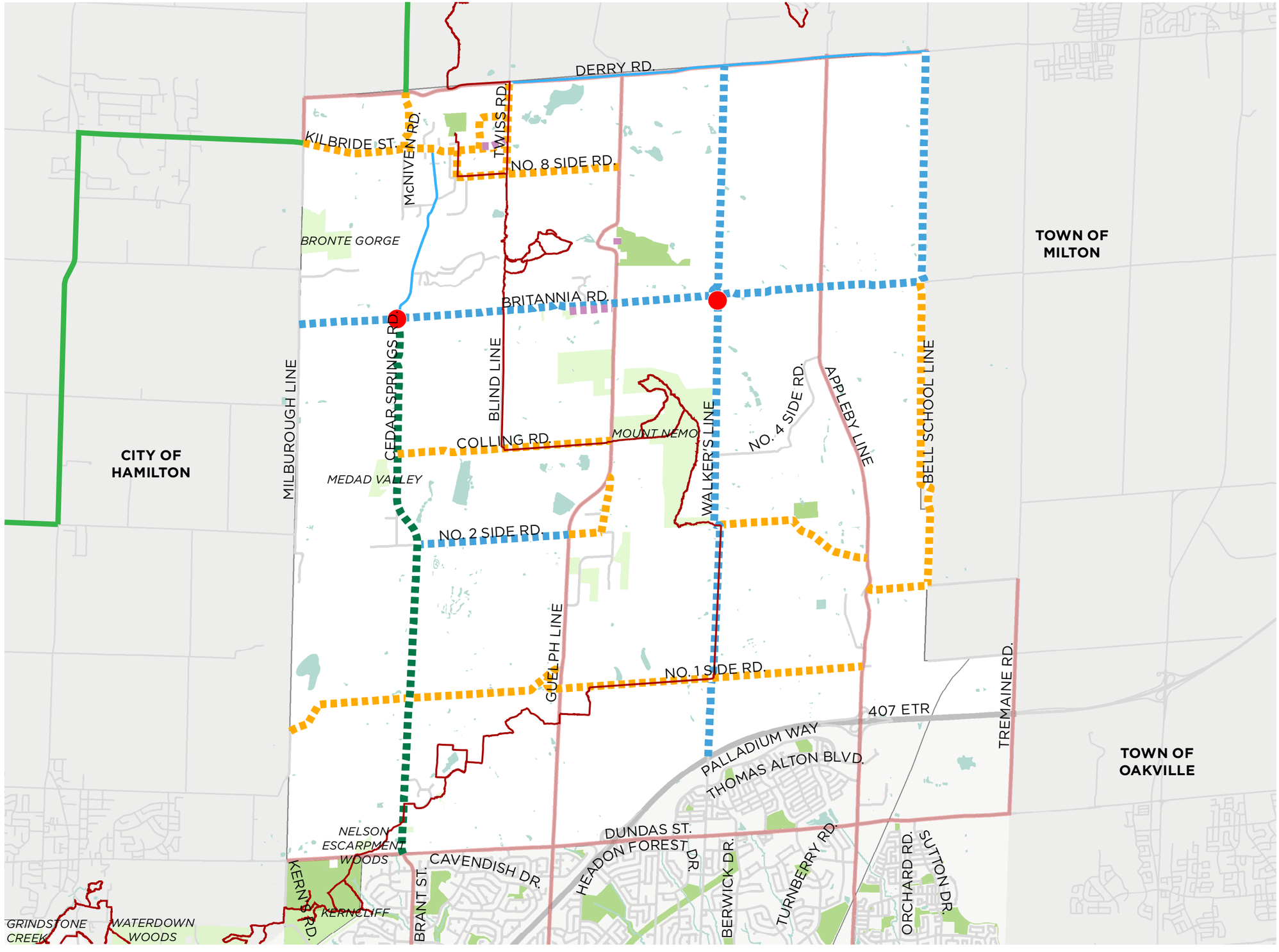
BURLINGTON RURAL ACTIVE TRANSPORTATION PLAN

PROPOSED IMPROVEMENTS

- Spot Improvement
- Multi-Use Path
- Paved Shoulders
- Sidewalk
- Traffic Calming

LANDS AND FEATURES

- Bruce Trail
- Greenbelt Cycling Route
- Road
- Highway
- Regional Road
- Railway
- Conservation Halton Land
- Park
- Water Feature
- Study Area
- Municipal Boundaries



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Data provided by the City of Burlington.
Map produced June 2021.

Program and Policy Recommendations

The following program and policy recommendations are intended to compliment and support active transportation in rural Burlington.

Wayfinding Program

The City should develop and implement a wayfinding signage program for cycling routes. The program should develop a simple, attractive signage family to clearly communicate and direct people cycling through the city along different cycling routes to destinations. The program should also consider how it can integrate and support existing regional trails and their wayfinding signage such as the Greenbelt Route.

Example of wayfinding signage types

Trailheads and Amenities

Through the public engagement process, many respondents identified the need for more trailheads and public amenities to support them using active transportation in rural Burlington. Trailheads, parking lots, bike parking, bike repair stands, and water refilling stations were examples of facilities and amenities most requested. Coordinating and integrating these at strategic locations along the active transportation network will support use of the network. Recognizing the environmental and financial costs to building new facilities, the City should look at how it could work with various property owners in

Example of trailhead amenities including benches, bike parking, and wayfinding signage

the area to provide these services, better utilizing existing infrastructure.

Marketing Campaigns

The City should consider how it can use its social media and communications platforms available to promote and educate about active transportation in rural Burlington. Marketing and communications initiatives could include:

Example of a sign from an education campaign

- Recommended Rural Adventures – suggested routes and trips that use the active transportation network, including cycling loops, cycling to trailheads to hike portions of the Bruce Trails or other rural destinations. The City could consider including recommendations to local businesses for people to stop along the way. The City may consider working with Tourism Burlington
- Awareness and Education – communications on road conditions and education on road safety and laws. For example, reminding people driving that people are allowed to cycle two abreast or take the lane when needed, or how to use newer facility types such as advisory lanes

Open Road Days

The City may consider the opportunity to promote cycling in the Rural Area through one-day events where a road or series of roads forming a loop are closed to car traffic to create an opportunity for low stress access to the Rural Area. A similar example is the ActiveTO road closures in Toronto which saw high numbers of people travel the corridor using active modes. Coordination with local residents and businesses would be key to the event's success.


Photo from Weekend Bikeday in Ottawa, ON

Lighting Policy

Road lighting is not currently provided along most roads in the rural area. This plan recognizes that lighting is not desireable or feasible for the entire rural active transportation network, but recommends that the City consider lighting in hamlets and at key intersections.

4 IMPLEMENTATION

Project Prioritization

The recommended projects include a variety of improvements that will be implemented over time. To support the network implementation, project prioritization was developed. This process involved grouping projects into relevant categories:

- Short-term (Projects studied or implemented)
- Medium-term
- Long-term

The prioritization process is a flexible process, that allows for changes to be made as future information is available. The process considered whether there are future capital works projects planned for that corridor to align with, the complexity of the project, and selecting projects that support network connectivity in the short-term.

A person cycling on a rural roadway in Gatineau, QC

NETWORK PRIORITIES

BURLINGTON RURAL ACTIVE TRANSPORTATION PLAN

PROPOSED IMPROVEMENTS

- Short-term
- Study Short-term
- Medium-term
- Long-term

LANDS AND FEATURES

- Bruce Trail
- Greenbelt Cycling Route
- Road
- Highway
- Regional Road
- Railway
- Conservation Halton Land
- Park
- Water Feature
- Study Area
- Municipal Boundaries

CITY OF Burlington

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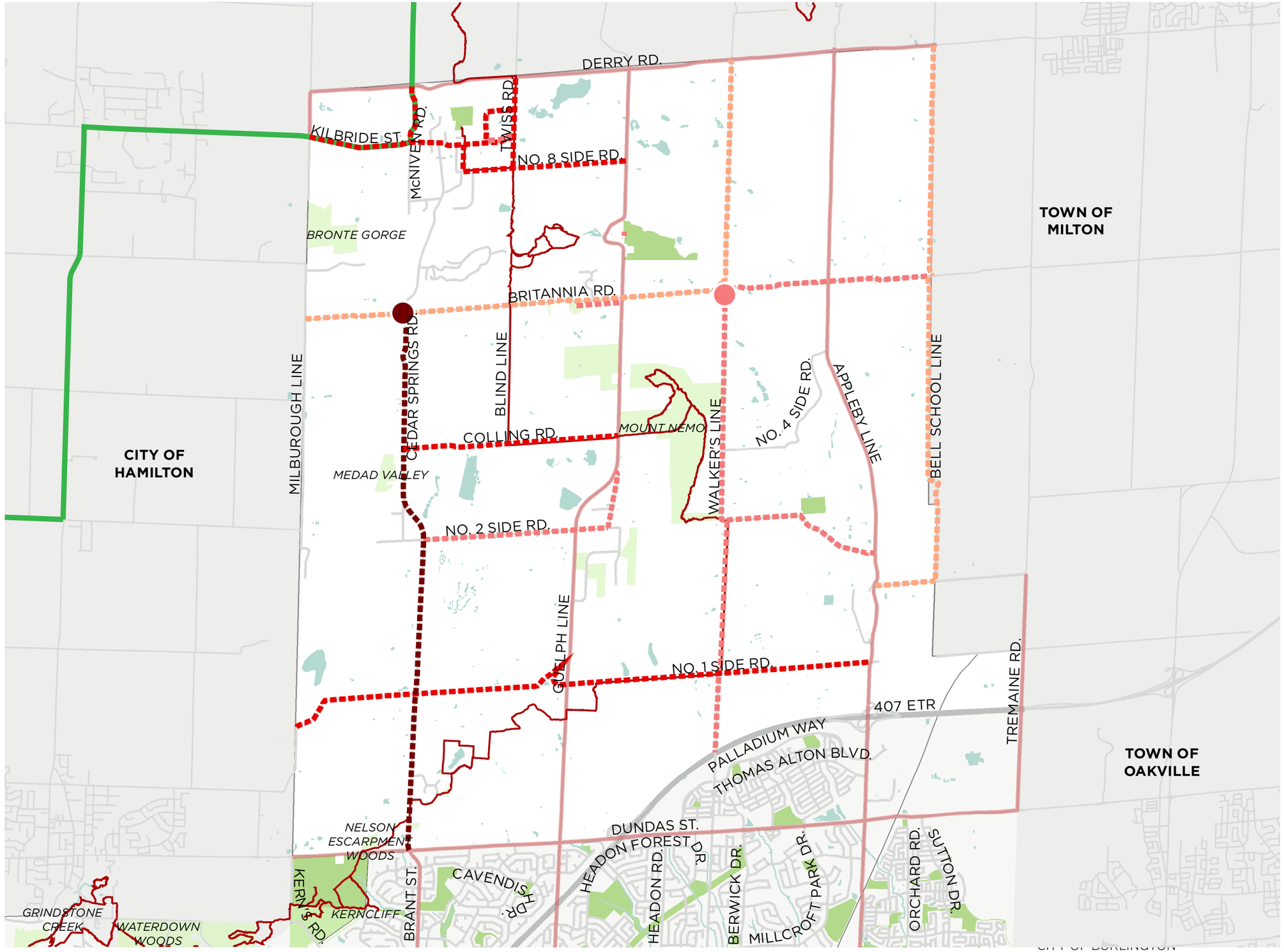

Implementation Framework

Projects can be implemented in coordination with planned capital work opportunities along the corridor, such as road resurfacing and road reconstruction projects. The type of work being done will influence how the project is implemented. For example, reconstruction provides the opportunity to move curbs and alter drainage, utilities, or other elements within the right-of-way that impact design. If a project is being implemented as part of a resurfacing project, it will have to accommodate the existing curbs and drainage, and there will likely be less opportunities to move or alter road elements.

In recent years, cities have also used pilot, quick-build, and interim implementation to test out and implement different road and facility designs. Quick-build and interim facilities are designed to be altered or removed, but also should comply with road design guidelines and standards. Pilots are intended for locations where the city is looking to test out a design but it is a temporary change. Interim projects are intended to be permanent installations until future capital works projects update the facility. Permanent implementation can vary based on the type of project or opportunity. When paired with road reconstruction projects, there is more opportunity to move curbs, alter drainage and utilities. Permanent implementation could also occur as a standalone project, but with more permanent materials, such as cast in place curbs.

Quick-Build

Interim

Permanent

Maintenance and Operations

Facilities are only comfortable and useful if they are in a good condition. As part of this plan, it is recommended that the City review and adopt proactive and responsive maintenance approaches to address issues that arise day-to-day, seasonally, and over years.

An example is seasonal sweeping of paved shoulders to remove debris. Comments through public feedback highlighted how uncomfortable and dangerous it can be when a paved shoulder is full of loose gravel. City operations staff should be recording their work, and identifying where increased service is needed, for example, if additional sweeping is necessary during the summer. They should also be identifying any causes or sources to regular maintenance issues. For example, if a section of roadway routinely has gravel on the paved shoulder is it the result of drainage, regular use of the shoulder by vehicles, or something else that can be mitigated to minimize the need for more frequent maintenance.

Another example is that the City often uses tar and chip to resurface roads in the rural area. This method can be unfriendly to people cycling as there is loose gravel on the road in the first year as vehicle traffic compacts the roadway surface. Considering other resurfacing options may be more appropriate by not creating additional challenges for people using active transportation.

Examples of road features that the City should monitor and proactively carry out maintenance and operations on include:

- Vegetation impeding operating area
- Roadway surface quality
- Pavement markings
- Debris on roadway and shoulder

Snow clearing operations on a cycling facility in Ottawa, ON

Monitoring Plan

Having a plan to monitor and evaluate both the implementation and key metrics is important for understanding the plan's impact. Understanding if there are challenges with plan implementation will help to understand why there may be less quantifiable impacts of the plan. Staff should identify that they have the necessary data to report on the evaluation metrics during regular reporting periods to ensure that monitoring and evaluation is successful.

Plan Implementation

The following metrics can be used to monitor the plan's implementation.

- Number of projects completed and total centreline kilometres by facility type
- Number of program and policy recommendations completed

Metrics and Data for Monitoring

Collecting data to understand how the recommendations are operating can be important for identifying if there are issues or unmet needs with improvements. The following metrics and data should be reviewed periodically to understand if there are issues or where people are using the network.

It may not be possible to understand the short-term impact of some recommendations. Isolated improvements to the cycling network may not significantly increase the number of people that are cycling there as they are not connected to the network and therefore may not support people cycling until further improvements are made to connect it to the network. Availability of data can also impact how the impact of the plan is evaluated. Furthermore, some metrics, such as number of collisions involving people cycling, may increase slightly because there are more people cycling than previously, resulting in more collisions, but the number of collisions per vehicle kilometres travelled could be much lower than before. Some metrics the City should consider monitoring for evaluation are:

- Number of people who feel comfortable cycling in rural Burlington (survey)
- Number of people who feel comfortable walking in rural Burlington (survey)
- Number of users using a facility (per day/week/month/year) (traffic counts)
- Locations for collisions involving people walking or cycling (collision data)
- Modal shift for trips under 5 km (Household Travel Survey)

Potential Funding

Municipal Programs

There may be limited ability to use some development-focused approaches such as Development Charges due to the limited development potential of the Rural Area. A Municipal Levy could be one approach to support funding, through a Council-approved by-law as per sectio 312 of the Municipal Act.

Grant Programs

Grant programs have specific requirements and vary on when they are open and accepting applications. Most grant programs will evaluate applications, so the City should closely review the goals and evaluation criteria to select projects most suitable to the criteria and be prepared to provide information on the potential benefits of each project.

National Active Transportation Fund

In 2022, Infrastructure Canada launched the Active Transportation Fund, which will provide $400 million over five years to municipalities and communities across Canada in support of the National Active Transportation Strategy. The fund will invest in projects that build pathways, bike lanes, trails, and bicycle/pedestrian bridges. The fund will cover up to 60% of the cost of capital projects.

Canada Community-Building Fund

The Canada Community-Building Fund is a permanent source of funding provided up front, twice-a-year to provinces to flow to municipalities. The fund supports environmentally sustainable municipal infrastructure by funding a range of projects including transportation projects.

Green Municipal Funds

The Federation of Canadian Municipalities (FCM) manages the Green Municipal Fund (GMF). Eligible capital projects include transportation that must demonstrate the potential to reduce vehicle kilometres travelled in a single occupancy vehicle by encouraging active transportation. Matched funds are required.

A person enjoying the view from the escarpment in rural Burlington