Appendices | Clarence-Rockland Multimodal Transportation Master Plan

Appendix

A

Clarence-Rockland Traffic Calming Toolkit

Stantec

Memo

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Project/File:	165001315 - Clarence-Rockland Traffic Calming Toolkit	Date:	August 23, 2023

1 Traffic Calming Toolkit

Traffic calming uses physical design or informational measures to reduce the volume or speed of vehicles traveling on a street, thus enhancing safety for all users of a roadway. The purpose of implementing traffic calming measures is typically to encourage safer and more community sensitive or responsible driving by reducing automobile speeds and cut-through traffic within neighbourhoods. These tools generally target traffic behaviour. Design elements typically used for traffic calming can be implemented as part of street reconstruction projects as a component of a self-regulating design, or alongside other design features that also reduce speeds, such as street trees, pedestrian lighting, and landscaping.

1.1 Applicability and Policy

When considering whether to initiate an evaluation that would lead to the implementation of traffic calming measures, the City should first consider whether the roadway characteristics are conducive to traffic calming measures. Considerations for this should include the road classification, location, adjacent land uses, local context, public concern, and adjacent active transportation facilities.

The purpose of traffic calming is to address the variable of the traffic and its impact on the community. Traffic calming should not be used to address what are fundamental safety concerns. Design safety issues recognized through measured means such as safety audits or collision histories need to be prioritized and addressed through direct investment. Where crossings or infrastructure are specifically unsafe, a specific design and capital improvement path should be pursued.

1.1.1 ROAD CLASSIFICATION AND TRAFFIC CALMING SUITABILITY

Physical implementations (vertical, horizontal, obstruction) should only be considered on local roads, Main Streets, and minor collector classified roads. Initial traffic calming evaluation should be performed on a neighbourhood scale. Volume or speed changes on one street segment may adversely impact the surrounding streets. Traffic calming installations should not divert traffic to other Local Roads but may divert vehicles to higher order streets. **Table 1** describes all road classifications in Clarence-Rockland through their technical details and intended service objectives. With few exceptions, traffic calming measures in general are only suitable for Local Roads, Main Streets, and Minor Collectors.

Table 1 – Road Classification and Traffic Calming Suitability

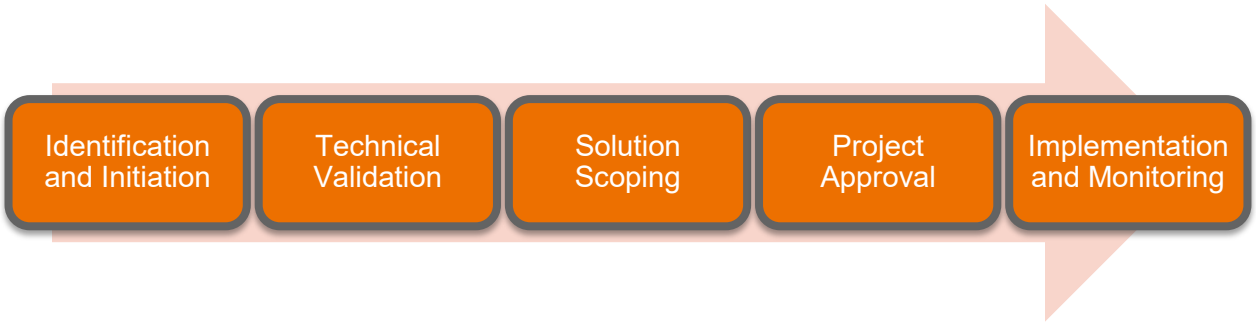
Road Classification	Characteristics	Vehicle Volume	Typical Width (metres)	Design Speed (km/h)	Suitable for Traffic Calming
Arterial Roads	▪ Carry high volumes of traffic at high speeds connecting major traffic generators ▪ Limited access control provided for land service and access ▪ Uninterrupted traffic flow ▪ Designed to accommodate all vehicles including trucks ▪ On-street parking not permitted	Up to 20,000	18-25	70-90	**NO**
Major Collector Roads	▪ Distribute traffic from development areas to the Arterial Road Network ▪ Serve abutting properties; access limited to commercial and medium density residential properties ▪ Interrupted traffic flow ▪ Accommodate passenger, service, industrial, and commercial vehicles	3,000 to 12,000	16-23	50-60	**NO**
Minor Collector Roads	▪ Distribute traffic from the interior of residential neighbourhoods to a Major Collector or Arterial ▪ Serve all abutting properties ▪ Interrupted traffic flow	3,000 to 8,000	12-16	50-60	**YES**

Road Classification	Characteristics	Vehicle Volume	Typical Width (metres)	Design Speed (km/h)	Suitable for Traffic Calming
	▪ Accommodate passenger, service, industrial, and commercial vehicles				
Main Street	▪ Balance pass-through traffic movement with on-street parking, pedestrian, cyclist, and transit needs ▪ Interrupted traffic flow ▪ On-street bicycle facilities ▪ Business-oriented parking restrictions where space allows	6,000-8,000	18-30	40-50	**YES**
Local Roads	▪ Connect with public lanes, other local roads, and collector roads ▪ Traffic movements secondary; provide access to properties ▪ Interrupted traffic flow ▪ Accommodate passenger and service vehicles of all types ▪ No parking restrictions, but typically limited to one side of the street. Some roads too narrow to permit parking	1,000-3,000	9-12	30-50	**YES**

1.2 Policy, Warrants, and Process

As municipalities develop official traffic calming policies, a consistent multi-step process from project initiation to project completion should be followed that incorporates satisfaction of technical criteria, design alternative selection, and community and official approvals. **Figure 1** illustrates major process steps and their order. Note that each step involves conditions that if not met, would disqualify a proposed project from implementation. These conditions and staff responsibilities will be described in the following subsections elaborating on each stage of the project implementation process.

Figure 1 – Traffic Calming Project Implementation Process



1.2.1 PROJECT IDENTIFICATION AND INITIATION

A common first step is petition, or the initiation of consideration for physical traffic calming. The evaluation process may be put in motion by either an elected official, a City staff member, a stakeholder agency (Police, Fire, Emergency Services), or by members the public. Valid public petition most often takes the form of classic written petition, signed by representatives of households, with defined thresholds for acceptance within areas affected by proposed changes. An advantage to proactive initiation by City government is the outward demonstration that the City actively seeks to improve the quality of life for their residents and will encourage public involvement in the traffic calming process.

Requests for traffic calming implementation should include the following details to assist in determining project priority and to maintain a transparent and well-documented implementation process:

- Roadway of concern;
- Segment of roadway; and
- Problem (Excessive speed, cut-through neighbourhood traffic, unsafe conditions)

The City should immediately pre-screen petitions. If any of the following disqualifying conditions are true, the project would not continue to subsequent steps in the process.

- Arterial or Major Collector Road Classification
- Physical Factors that preclude the installation of calming elements, such as road grade
- Proposed project previously submitted and not conditionally approved within the previous 3 years
- Proposed project previously submitted and failed technical validation within the previous 5 years

- Proposed project located within a current or planned roadway construction project
- Proposed project in a location impacted by an adjacent construction project such that technical validation could not be properly performed

Additionally, City traffic operations may modify the scope of the petition to include adjacent streets if it is determined that the proposed traffic calming would have significant traffic impacts on those streets.

If the project passes all pre-screening criteria, it must receive conditional approval by the City of Clarence-Rockland Planning Committee, composed of three members of city Council and two members of the community, by the Director of Infrastructure and Planning, and by Clarence-Rockland Protective Services. When all approvals are secured, the project may proceed to technical validation.

1.2.2 PROJECT TECHNICAL VALIDATION

Technical validation takes the form of data collection related to roadway configuration, use, and safety factors. If the street where traffic calming is proposed lacks sidewalks, the City may take this opportunity to require, or at least consider, their installation in addition to any traffic calming elements identified in later stages.

The City should visit conditionally approved project sites to collect data and validate conditions related to the following technical aspects:

- **Vehicle Speed**:
  - Assess the 85th percentile speed of vehicular traffic on a street versus its posted speed limit to determine if roadway design unintentionally contributes to habitual speeding.
- **Vehicle Volume/Classification**:
  - Roadway vehicular volume must fall within a range, typically 1,000 to 8,000 vehicles per day to merit a traffic calming installation. The minimum volume requirement may be removed if the prevailing vehicular speed exceeds the posted speed by a larger interval.
  - An abnormal proportion of an unintended type of vehicle present on a certain road classification, typically freight hauling vehicles using lower capacity roadways, may form the basis for intervention.
- **Safety Data**
  - Collision history near a specific intersection or along a roadway segment may warrant a traffic calming application. More specifically collisions involving bicycles or pedestrians, as well as the high-frequency occurrence of near-misses, if possible to be counted, represent high-priority safety issues to be addressed.
- **Geometric Characteristics**:
  - Length of a roadway segment or the distance between traffic control devices along a roadway exceeding a defined threshold may satisfy a technical requirement for traffic calming.

Once a petitioned and conditionally approved project has been validated the traffic calming project should be compared with other validated applications to prioritize those with greater impact for either improved

livability or improved safety outcomes. A validated project should stay on an active list of unimplemented priority projects for a determined time period (recommended 5 years) to avoid recurring evaluations of the same issue/location. After this period lapses, the project can be sent back to the first step of the overall process. This process enables identification of solutions that best address street design problems.

1.2.3 SOLUTION IDENTIFICATION, SELECTION, AND SCOPING

Alternate scoping should identify a specific single appropriate traffic calming measure or small set of suitable alternatives to address the primary issues originally identified and subsequently technically validated. Each potential alternative should consider implementation cost as it relates to the scale of the safety concern – an otherwise suitable option that cannot be funded is not a viable solution. Higher cost solutions may be required to satisfy a greater number of validation criteria or more stringent geometric review.

Table 2 below provides a tabular summary of potential physical measures for use in traffic calming applications. The summary highlights the traffic issues for which a calming measure is effective, to what degree, and its appropriateness for different roadway classifications. Within the table, a green plus sign (+) represents high effectiveness, a blue circle (O) moderate effectiveness, and a red minus sign (–) no effectiveness of a given traffic calming measure at accomplishing the objectives listed in each column. In the final three columns, an orange checkmark (✓) denotes that a particular measure is appropriate for the corresponding roadway classification while a red x (✗) indicates that the particular measure is not appropriate in that context.

Table 2 – Effectiveness and Appropriate Contexts of Traffic Calming Measures

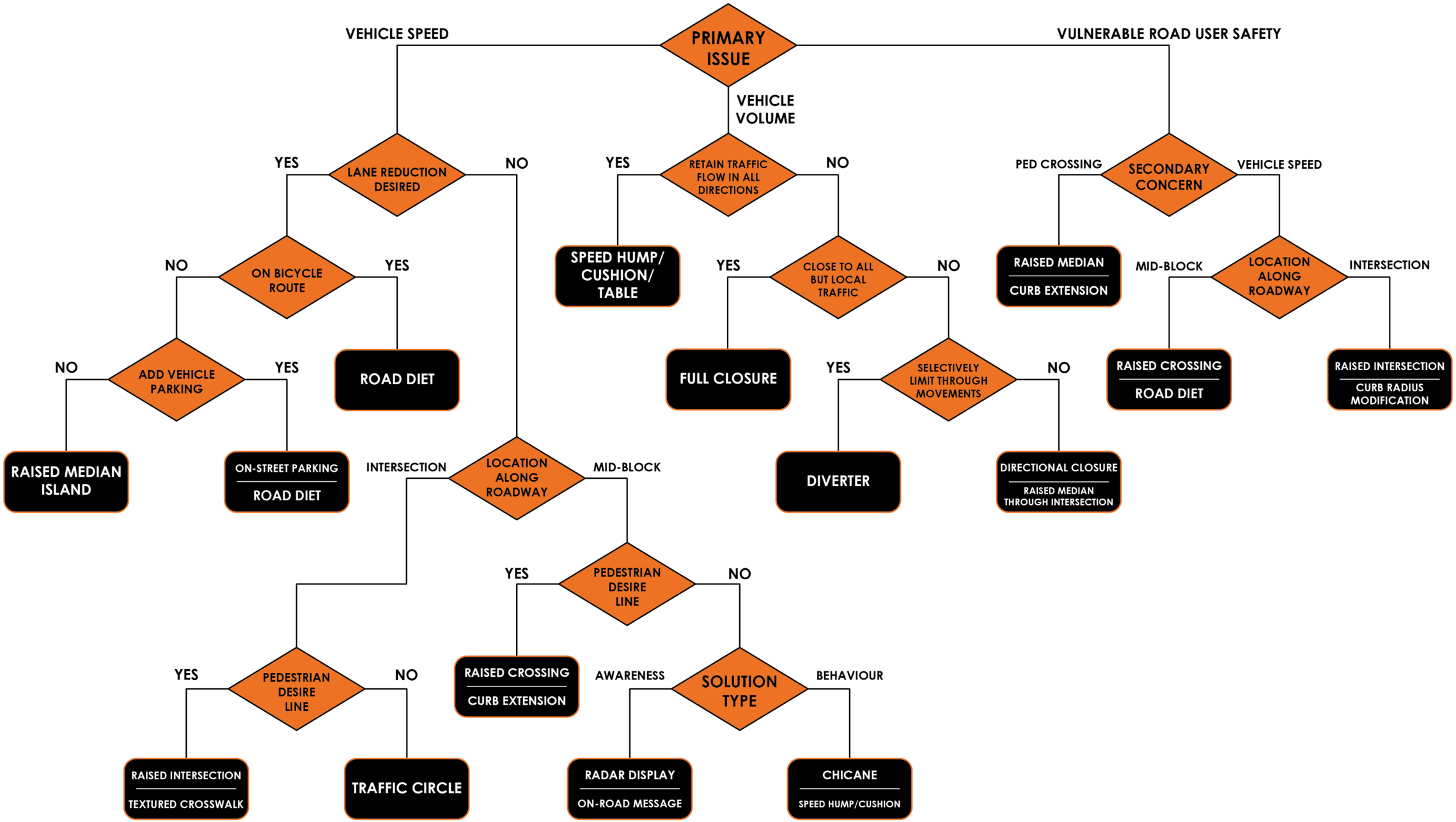
	EFFECTIVENESS			ROAD CLASSIFICATION		
Traffic Calming Measure	**Reduce Speed**	**Reduce Volume**	**User Safety**	**Local Road**	**Main Street**	**Minor Collector**
Vertical Measures						
Speed Hump/Cushion/Table	+	+	O	✓	✓	✓
Raised Crossing	+	O	+	✓	✓	✓
Raised Intersection	+	–	+	✓	✓	✗
Horizontal Measures						

	EFFECTIVENESS			ROAD CLASSIFICATION		
Traffic Calming Measure	**Reduce Speed**	**Reduce Volume**	**User Safety**	**Local Road**	**Main Street**	**Minor Collector**
Curb Extension	O	−	+	✓	✓	✓
Curb Radius Modification	+	−	+	✓	✓	✓
Chicane	+	O	O	✓	✓	✗
Road Diet	+	−	+	✓	✓	✓
On-Street Parking	+	−	O	✓	✓	✓
Raised Median Island	+	−	+	✓	✓	✓
Traffic Circle	+	−	O	✓	✓	✗
Obstruction Measures						
Raised Median Through Intersection	−	O	O	✓	✓	✗
Diverter	O	+	O	✓	✓	✗
Directional Closure	O	+	O	✓	✓	✗

	EFFECTIVENESS			ROAD CLASSIFICATION		
Traffic Calming Measure	**Reduce Speed**	**Reduce Volume**	**User Safety**	**Local Road**	**Main Street**	**Minor Collector**
Full Closure	O	+	O	✓	✓	✗
Awareness Measure						
Textured Crosswalk	O	–	O	✓	✓	✓
Bicycle Boulevard	O	–	O	✓	✓	✓
Radar Speed Display Sign	+	–	O	✓	✓	✓
On-Road Messaging	O	–	O	✓	✓	✓
Traffic Calmed Neighborhood/ Community Safety Zone Signs	O	–	O	✓	✓	✓

Figure 2 applies a decision flow chart approach to choosing one or two appropriate traffic calming measures based on successive aspects of identified issues – primary and secondary areas of concern – and desirable outcomes such as lane reduction, parking provision, or inclusion of bicycle facilities. Once confidently identified as appropriate, with fully understood impact/cost ratios, viable alternatives are submitted to the next step of the project approval process.

Figure 2 – Traffic Calming Element Choice Decision Tree



1.2.4 COMMUNITY AND OFFICIAL PROJECT APPROVAL

The project approval step of the implementation process consists of multiple stages. First, viable alternatives identified during scoping will be presented to stakeholders that gave conditional approval for technical validation; the City Planning Committee, the Director of Infrastructure and Planning, and Clarence-Rockland Protective Services. This combined traffic calming working group, which ensures the inclusion of elected officials, City Staff, stakeholders, and members of the public, will select a recommended option if multiple alternatives are presented. Additionally, this group will identify any mitigation that may be required to offset adverse impacts of the preferred alternative.

Subsequently, engagement with the affected community will commence. City Staff will prepare an online project description and survey, accessed by the public in response to direct mailing to residents. The survey will feature direct approval/disapproval questions as well as opportunities to provide refining feedback. After responses are collected and tabulated, if a minimum participation rate is reached, and direct disapproval exceeds a defined percentage, the project may be dropped from further consideration for implementation. In this event, City Staff may consider modifying project plans and reintroducing them to the community in a second survey at which the same approval/disapproval criteria would apply.

If the project secures sufficient support from stakeholders and the public, it proceeds to final design and implementation.

1.2.5 IMPLEMENTATION STRATEGY & MONITORING

Once a traffic calming solution has been selected/approved, the City should follow a consistent implementation strategy that includes:

- Completion of the Approved Design
- Secure Construction Funding
- Notification of Impacted Users
- Schedules (Bid, Procurement, Implementation)
- Post-installation Monitoring on Target and Nearby Streets

The process for implementing traffic calming measures must also involve public participation to ensure that the implementation strategy addresses stakeholder concerns. The strategy developed should weigh the benefits of the traffic calming measures with any disadvantages that they may pose to nearby residents and business owners.

City staff should plan for a post-installation monitoring period not only to observe technical aspects, but also to receive local feedback on whether perceived issues have been resolved, dependent the initial justification for the traffic calming measure.

2 Traffic Calming Measures

As design elements are the building blocks of street design, a subset of these elements, traffic calming measures, are the building blocks used to retrofit existing streets experiencing volumes or speeds that are not in line with the desired function of streets within the roadway network.

When determining which traffic calming measures should be included in such a toolkit, consideration should be given to whether a measure serves self-enforcing design concepts. Self-enforcing design is rooted in the idea that environmental cues provide the most effective signals to drivers to operate safely, at a travel speed compliant with a community's safety objectives.

Rather than relying on signage and enforcement, a self-enforcing design reflects the character and context of the street. When curb-to-curb distances and lanes widths are wide, and when buildings, trees, and street furnishings are far from the edge of the roadway, a driver naturally drives faster, regardless of the posted speed limit. In this environment, peripheral awareness diminishes. Whereas on a street designed to use the minimum required pavement width, that has trees and other active uses at the street edge, the sense of enclosure instinctively provides drivers a better sense of their travelling speed relative to their surroundings. Driving slower, better perception of other activity along the roadway becomes a reciprocal benefit.

While self-enforcing design typically compels drivers to behave cautiously, a complete street redesign is nearly always impractical. Therefore, traffic calming elements are often the only tools available to a street designer to create streets that do not overly rely on active enforcement.

Grouped according to common applications (vertical, horizontal, obstruction, and awareness), subsequent pages catalogue measures along with clear definitions and detailed guidance on the use, material cost, design, advantages, disadvantages, operations, and maintenance of these useful building blocks. The base material cost provided is limited to a single instance of that design element installed on a 20-25m roadway section with one 3.75m travel lane in each direction. The material cost range reflects contingencies including variation in the size of the installation as well as topography variation.

Speed Hump/Cushion/Table

Raised areas along a roadway which discourage drivers from travelling at high speed. Inexpensive to design and install. Speed cushions have gaps between them to accommodate emergency vehicles. Installations can be temporary or permanent Speed tables are longer flat-topped speed humps.

MEASURE

Vertical

PRIMARY PURPOSE

Speed Reduction

ACCOMPANYING SIGNAGE

MATERIAL COST PER MEASURE

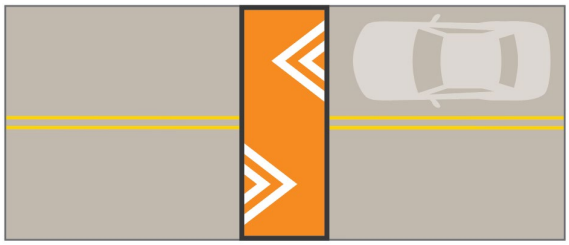
$19,500-$29,250
Milling and asphalt. Total expenditures greater due to costs of labour, signage, pavement markings

ADVANTAGES

- Minimal impact on cyclists
- Self-enforcing
- Speed cushions better accommodate emergency vehicles than speed humps

DISADVANTAGES

- Impact on snow clearing



DESIGN

- Speed humps are eight to ten centimetres high and 3.5 to 4.25 metres wide, with a ramp length of one to two metres.
- Speed tables are flat-topped, with a height of eight to nine centimetres and a length of approximately 6.7 metres.
- Vertical elements should not be placed in line with roadway access points.
- Designs should ensure proper drainage, permit snow removal, and accommodate street sweeping vehicles while not damaging the speed control elements.

OPERATIONS AND MAINTENANCE

- Vertical speed control elements should be accompanied by signage and pavement markings warning approaching drivers.
- Monitor the impact of treatments at the network and neighborhood level prior to and after installation.
- Snow plow operators should be adequately warned and trained.

Raised Crossing

Raised crossings elevate the crosswalk above street level, improving pedestrian visibility, Typically implemented mid-block, raised crossings slow vehicles and increase safety for pedestrians.

MEASURE

Vertical

PRIMARY PURPOSE

Speed Reduction

ACCOMPANYING SIGNAGE

MATERIAL COST PER MEASURE

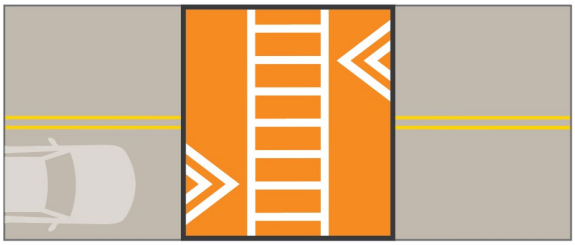
$30,800-$46,200
Excavation, concrete, tactile indicators. Total expenditures greater due to costs of labour, signage, pavement markings

ADVANTAGES

- Improved pedestrian visibility
- Pedestrian area better defined
- Self-enforcing
- Reduce pedestrian-vehicle conflict

DISADVANTAGES

- Can slow down the response time of emergency services and impact the comfort of patients being transported



DESIGN

- Raised crosswalks may be used where vehicle volumes are generally low.
- A raised crosswalk may be required where multi-use trails cross a roadway.
- Signage to alert drivers to the raised crossing must be provided.
- Raised crossings require detectable warnings at the curb line for persons with visual disabilities.
- Transit routes and emergency vehicle routes must be considered when designing approach ramps.
- High-visibility or textured paving materials can be used to enhance the contrast between the raised crossing and the surrounding roadway.
- Designs should ensure proper drainage.

OPERATIONS AND MAINTENANCE

- Installation of raised crossings and intersections may affect snow removal operations. Snow plow operators should be adequately warned and trained.

Raised Intersection

An intersection that is slightly elevated compared to the intersecting roadways. They aim to reduce vehicular speed at crossings by raising the level of the entire intersection to the level of the sidewalk, a similar concept to speed tables, but applied to the entire intersection.

MEASURE

Vertical

PRIMARY PURPOSE

Speed Reduction

ACCOMPANYING SIGNAGE

MATERIAL COST PER MEASURE

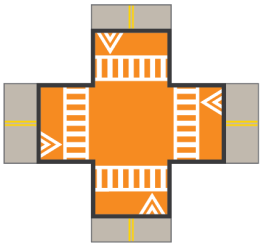
$183,800-$275,700
Excavation, fill, asphalt, concrete, tactile indicators, sod topsoil. Total expenditures greater due to costs of labour, signage, potential relocation of catch basins

ADVANTAGES

- Improved pedestrian visibility
- Pedestrian area better defined
- Self-enforcing
- Reduce pedestrian-vehicle conflict

DISADVANTAGES

- Negative impact on Emergency Services (i.e., Ambulance, Fire, and Police) by slowing down response time and impacting the comfort of patients being transported



DESIGN

- Maintain direct routes across intersections aligning pedestrian desire lines on either side of the sidewalk.
- Signage to indicate the raised intersection to drivers must be provided.
- Raised intersections require detectable warnings at the curb line for persons with visual disabilities.
- Transit routes and emergency vehicle routes must be considered when designing approach ramps.
- High-visibility or textured paving materials can be used to enhance the contrast between the raised intersection and the surrounding roadway.
- Designs should ensure proper drainage.

OPERATIONS AND MAINTENANCE

- Installation of raised crossings and intersections may affect snow removal operations. Snow plow operators should be adequately warned and trained.

Curb Extension

A horizontal extension of a curb into the roadway, resulting in a shorter pedestrian crossing distance. Also referred to as a bump out, curb extensions are most commonly installed at intersections, but may be used at mid-block crossings. Curb extensions are useful in defining and protecting parking lanes.

MEASURE

Horizontal

PRIMARY PURPOSE

Speed Reduction

ACCOMPANYING SIGNAGE

COST PER MEASURE

MATERIAL COST PER MEASURE

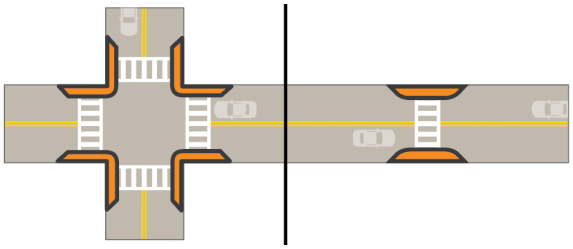
$52,700-$79,050
Excavation, milling, asphalt, concrete sidewalk/curb, tactile indicators, sod, topsoil. Total expenditures greater due to costs of labour, signage, potential relocation of catch basins, potential bollards

ADVANTAGES

- Increase pedestrian visibility
- Opportunity for landscaping

DISADVANTAGES

- May not be compatible with bike lanes
- May require removal of on-street parking spaces



DESIGN

- Bump outs should not narrow any lanes to an unsafe width. One-half metre should remain between the curb and the first travel or bicycle lane.
- Corner or midblock bump outs with crosswalks should be as wide as the crosswalk and extend to the stop bar.
- At corners with turn restrictions, use a bump out to encourage compliance.
- Consider bus turning requirements when proposing bump outs along streets that accommodate transit vehicles.

OPERATIONS AND MAINTENANCE

- Installation of bump outs can be temporary, using bollards and planters.
- Green infrastructure applications associated with bump outs require maintenance plans.
- Special snow removal equipment should not be necessary if bump outs are designed with adequate turn radii.

Curb Radius Modification

A redesign and reconstruction of an intersection corner to create a smaller effective turning radius. Smaller curb radii result in slower turning speeds and greater pedestrian safety and comfort.

MEASURE

Horizontal

PRIMARY PURPOSE

Speed Reduction

MATERIAL COST PER MEASURE

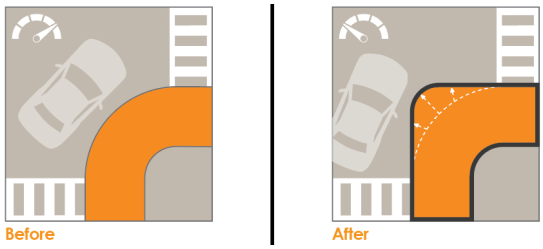
$12,300-$18,450
Excavation, milling, asphalt, concrete sidewalk/curb, sod, topsoil. Total expenditures greater due to costs of labour, potential relocation of catch basins, pavement repair

ADVANTAGES

- Slow right-turning vehicles
- Reduce crossing distance for pedestrian
- An expanded pedestrian area allowing for better pedestrian ramp alignment

DISADVANTAGES

- Where streets intersect at acute angles, tight turn radii may preclude use by certain vehicle types.



DESIGN

- Street designers should use the smallest practical actual corner radius that preserves an effective curb radius appropriate to the design vehicle and the overall objectives of the street.
- Control vehicles that rarely use the street, such as fire trucks, may encroach into oncoming lanes if and when required to slowly navigate a turn.
- Smaller radii should be the default where there is an expectation of high levels of use by persons with disabilities.

OPERATIONS AND MAINTENANCE

- Implementation of modified curb radii may be temporary, using rubber parking bumpers and flexible delineator posts. Winter removal may be considered.
- Special snow removal equipment should not be necessary if radii are designed adequately for the current fleet.

Chicane

Two or more offset curb extensions that are designed to narrow a two-lane roadway to a one-lane roadway for a short distance, considerably slowing traffic speeds. Depending on the level of implementation, Chicanes may significantly increase the amount of public space along a street.

MEASURE

Horizontal

PRIMARY PURPOSE

Speed Reduction

ACCOMPANYING SIGNAGE

MATERIAL COST PER FULL PAIR

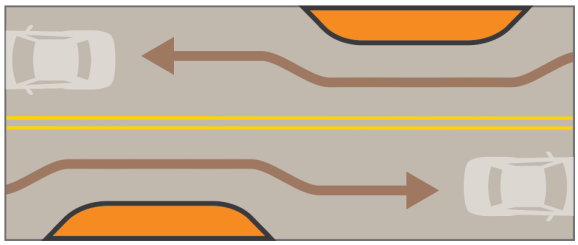
$39,800-$59,700
Excavations, milling, asphalt, concrete sidewalk/curb, sod, topsoil. Total expenditures greater due to costs of labour, signage, potential relocation of catch basins

ADVANTAGES

- Also discourages cut-through traffic.
- Increased public space creates landscaping opportunities.

DISADVANTAGES

- Not recommended on bike routes
- Suggested for roads with moderate traffic volumes. Chicanes have proven to be ineffective on low volume roads and other safety concerns are created when installed on high volume roads.



DESIGN

- Shifts in chicane alignment should be at least one lane in width with deflection angles of at least 45 degrees, with sufficient narrowing of the roadway center to prevent drivers from following a straight path.
- Additional signage may be warranted to alert drivers to the effective bends in the travel lanes.

OPERATIONS AND MAINTENANCE

- Monitor the impact of traffic calming treatments at the network or neighborhood level prior to and after installation.
- Horizontal control measures that allow for and result in added landscaping will require additional maintenance.
- Designs should consider snow removal operations. Visual cues should alert snow plow operators of the change in the roadway.

Road Diet

A reconfiguration of the roadway, typically limited to striping, that typically removes and narrows vehicular travel lanes to accommodate bicycle lanes, two-way left turn lanes, and on-street parking.

MEASURE

Horizontal

PRIMARY PURPOSE

Speed Reduction

ACCOMPANYING SIGNAGE

MATERIAL UNIT COST

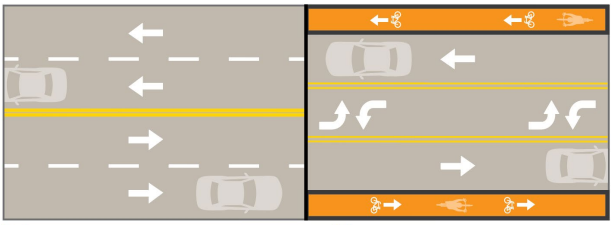
$200-$300 per painted square metre
Material expenditures vary according to length of roadway and lane allocation. Will include associated costs of traffic engineering

ADVANTAGES

- Provides opportunity to provide bicycle lanes, two-way left turn lanes, on-street parking, or other streetscape improvements.
- Discourages speeding while improving sight distances for left-turning vehicles.
- Minimal effect on the vehicular capacity of the roadway.
- General reduction in left-turning crashes.

DISADVANTAGES

- Potential for increase in right-turning vehicle/cyclist conflict.



DESIGN

- The centre turn lane target width is 3.3 metres. Minimum width is 3.0 metres.
- Painted, textured, or raised medians may be incorporated between intersections to provide improved pedestrian crossings, incorporate landscape elements, and reduce travel speeds.
- Bump outs may be added to protect newly designated parking lanes, but care must be taken not to impede any new bicycle lanes created through space reallocation.

OPERATIONS AND MAINTENANCE

- A major street redesign requires reconsideration of signal placement and alignment, signal timing, intersection capacity, and turning movement dynamics at major intersections.
- Post-reconfiguration traffic operations monitoring is required to determine project impact.

On-Street Parking

Restricts the roadway width by allowing automobiles to park along the roadway. When implemented diagonally, the position of the parking spaces are designed to change the perception and function of a street while allowing easier maneuvering and more stalls than parallel parking.

MEASURE

Horizontal

PRIMARY PURPOSE

Speed Reduction

ACCOMPANYING SIGNAGE

MATERIAL UNIT COST

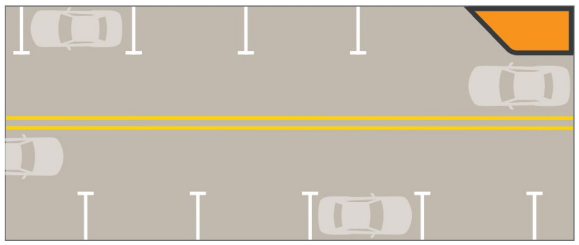
$200-$300 per painted square metre
Material expenditures vary according to length of parking area

ADVANTAGES

- Forces drivers to be more aware of nearby street activity
- Reduces effective pedestrian crossing distance
- Possible reduction in through traffic

DISADVANTAGES

- Perpendicular and angled parking not appropriate on narrower streets or streets with bicycle facilities



DESIGN

- Typically, on-street parking is curbside parking parallel to the curb. Perpendicular or angled parking are also acceptable configurations.
- Parking spaces may be marked with T and L pavement markings at their outside edge or defined with a solid white line.
- Parallel curbside parking spaces should be at least 2.8 metres wide by 6.5 metres long.

OPERATIONS AND MAINTENANCE

- General parking restrictions may be defined depending on roadway and community context.
- Parking lanes require the same snow clearing, sweeping, and other maintenance as travel lanes. Management through temporary restrictions may be required.

Raised Median Island

An curb-lined structure running parallel to, and installed in the center of, a roadway to divide lanes of traffic and further restrict the width of remaining available roadway.

MEASURE

Horizontal

PRIMARY PURPOSE

Speed Reduction

ACCOMPANYING SIGNAGE

MATERIAL COST PER MEASURE

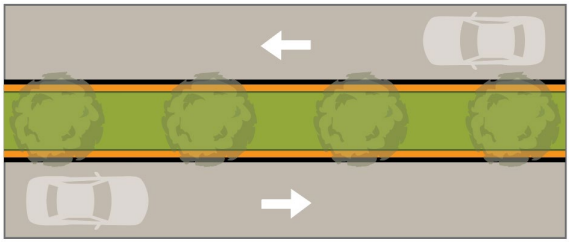
$435-$652.50 per linear metre
Earth excavation, cutting/milling, concrete curb, sod, topsoil. Total expenditures greater due to costs of labour, signage, landscaping, potential removal and repair of pavement

ADVANTAGES

- Reduce pedestrian-vehicle conflict by limiting turning movements
- Safer pedestrian crossing by providing refuge that lessens exposure by dividing crossing distance into two more manageable distances

DISADVANTAGES

- Potential driveway access restriction
- Potential loss of on-street vehicle parking
- Larger right-of-way required



DESIGN

- Striped or painted medians may precede more permanent improvements, providing an opportunity to test travel behavior before making a significant capital investment.
- Raised median design may include landscaping and stormwater control.
- Medians protecting turning lanes or pedestrian refuge areas should be at least 3.0 metres wide. All others should be a minimum of 2.0 metres wide.
- Medians should allow adequate width in adjacent travel lanes as well as turn radii that accommodate service vehicles.

OPERATIONS AND MAINTENANCE

- Medians should be designed with snow removal in mind and can be used for snow storage if necessary, though this may negatively impact planted materials and can block driver sight lines.
- Median construction should facilitate maintenance of plantings and vegetation.

Traffic Circle

Also known as a mini roundabout, a traffic section is an intersection control type. It provides a raised island in the center of the intersection around which traffic circulates. It can be used at existing intersections to replace two-way stop control, all-way stop control, or a traffic signal.

MEASURE

Horizontal

PRIMARY PURPOSE

Speed Reduction

ACCOMPANYING SIGNAGE

MATERIAL COST PER MEASURE

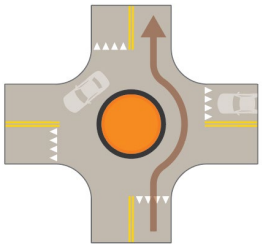
$8,100-$12,150
Excavation, cutting/milling, concrete median, asphalt. Total expenditures greater due to costs of labour, signage, landscaping

ADVANTAGES

- Reduce vehicle-vehicle conflicts at intersections
- Opportunity for landscaping

DISADVANTAGES

- Restricts turning movements by large vehicles
- May increase Emergency Services response time



DESIGN

- The size and location of the central island should allow for all traffic movements typically accommodated by a four-way intersection.
- However, central island physical parameters should ensure vehicle path deflection to encourage proper circulation and reduced speeds.
- Where a bicycle boulevard turns at an intersection featuring a traffic circle, use bicycle-specific wayfinding signage and using pavement (shared-lane) markings to reiterate the bike route direction.

OPERATIONS AND MAINTENANCE

- Shrubs or trees in the traffic circle must be properly maintained to not compromise visibility.
- Like medians, traffic circles can store snow if necessary, but consideration should be given to preservation of plantings and sight obstructions.

Raised Median Through Intersection

An elevated median installed through an intersection, blocking through traffic and left turning movements in certain directions, generally to and from local streets.

MEASURE

Obstruction

PRIMARY PURPOSE

Volume Reduction

ACCOMPANYING SIGNAGE

MATERIAL UNIT COST

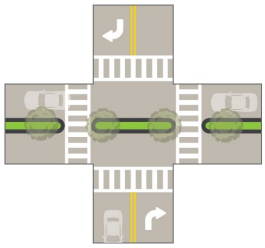
$490-$735 per linear metre
Earth excavation, milling, concrete curb, sod, topsoil. Total expenditures greater due to costs of labour, signage, landscaping, potential removal and repair of pavement

ADVANTAGES

- Obstruct short-cutting traffic along lower order road classifications
- Safer pedestrian crossing by providing refuge that lessens exposure by dividing crossing distance into two more manageable distances
- Maintain non-motorized access

DISADVANTAGES

- May increase traffic on adjacent streets
- May increase trip length for residents



DESIGN

- Raised medians through intersections provide opportunities for landscaping and two-stage pedestrian crossings.
- Medians protecting turning lanes or pedestrian refuge areas should be at least 3.0 metres wide. All others should be a minimum of 2.0 metres wide.
- The median should extend a sufficient distance beyond the intersection's edge to prevent attempts by drivers to circumvent the barrier. A smaller opening may be provided for bicycle cross-traffic.

OPERATIONS AND MAINTENANCE

- Post-installation impacts on adjacent lower order streets should be monitored.
- Medians should be designed with snow removal in mind and can be used for snow storage if necessary, though this may negatively impact planted materials and can block driver sight lines.
- Median construction should facilitate maintenance of plantings and vegetation.

Diverter

Raised triangular islands at an intersection that prevent vehicles from turning a certain direction or driving through an intersection. May be oriented diagonally across an intersection to force left turns in two directions and right turns from other approaches.

MEASURE

Obstruction

PRIMARY PURPOSE

Volume Reduction

ACCOMPANYING SIGNAGE

MATERIAL COST PER MEASURE

$14,200-$21,300
Excavation, cutting/milling, concrete median, asphalt. Total expenditures greater due to costs of labour, signage, landscaping

ADVANTAGES

- Obstruct short-cutting traffic along lower order road classifications

DISADVANTAGES

- May increase traffic on adjacent streets
- May increase trip length for some residents
- Impacts to emergency response access

DESIGN

- Can be used on one-way and two way streets but can only be implemented at intersections.
- Barriers may take the form of walls, gates, landscaped areas, or other obstructions.
- Openings for pedestrians and cyclists should be provided to preserve movement in all directions for non-motorized transportation modes.
- Approaches require signage corresponding to valid and invalid movements from all approaches.
- Should not be used on streets providing frequent access to emergency services.

OPERATIONS AND MAINTENANCE

- Post-installation impacts on the surrounding street network should be monitored to ensure that traffic is diverted to higher order, rather than other lower order streets.

Directional Closure

A directional closure is a longer curb extension or vertical barrier extending to the roadway's midpoint that obstructs or prohibits one direction of traffic, creating a one way street for all but local traffic.

MEASURE

Obstruction

PRIMARY PURPOSE

Volume Reduction

ACCOMPANYING SIGNAGE

MATERIAL COST PER MEASURE

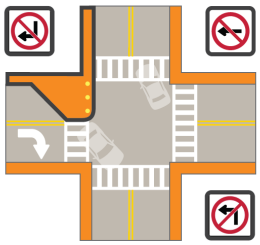
$7,000-$10,500
Excavation, cutting/milling, concrete median, asphalt. Total expenditures greater due to costs of labour, signage, landscaping

ADVANTAGES

- Obstruct short-cutting traffic along lower order road classifications

DISADVANTAGES

- May increase traffic on adjacent streets
- May increase trip length for some residents
- Impacts to emergency response access



DESIGN

- Can only be implemented at intersections.
- Barriers may take the form of walls, gates, landscaped areas, or other obstructions.
- Openings for pedestrians and cyclists should be provided to preserve movement in all directions for non-motorized transportation modes.
- Approaches require signage corresponding to valid and invalid movements from all approaches.
- Should not be used on streets providing frequent access to emergency services or on transit routes.

OPERATIONS AND MAINTENANCE

- Post-installation impacts on the surrounding street network should be monitored to ensure that traffic is diverted to higher order, rather than other lower order streets.

Full Closure

Installation of a barrier across the entire width of a roadway, preventing drivers from passing through. Full closures can be designed and built to allow emergency vehicle access through the use of gates or breakaway/mountable materials.

MEASURE

Obstruction

PRIMARY PURPOSE

Volume Reduction

ACCOMPANYING SIGNAGE

COST PER MEASURE

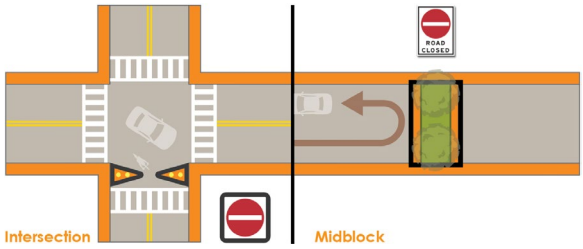
Highly varied based on roadway width, material choice, appropriate signage, and required labour

ADVANTAGES

- Reduce pedestrian-vehicle conflict
- Obstruct short-cutting traffic along lower order road classifications

DISADVANTAGES

- May increase traffic on adjacent streets
- May increase trip length for some residents
- Impacts to emergency response access



DESIGN

- May be implemented at intersections or mid-block locations.
- Barriers may take the form of walls, gates, landscaped areas, or other obstructions.
- Openings for pedestrians and cyclists should be provided to preserve movement in all directions for non-motorized transportation modes.
- In addition to site signage, full closures require pre-warning signage at the most proximate intersection in each direction.
- Should not be used on streets providing frequent access to emergency services or on transit routes.

OPERATIONS AND MAINTENANCE

- Post-installation impacts on the surrounding street network should be monitored to ensure that traffic is diverted to higher order, rather than other lower order streets.

Textured Crosswalks

A textured or patterned surface placed along a pedestrian crosswalk to increase visibility and safety. Textured pavements reinforce the shared nature of crosswalk space between motorists and pedestrians.

MEASURE

Awareness

PRIMARY PURPOSE

Safety

ACCOMPANYING SIGNAGE

MATERIAL UNIT COST

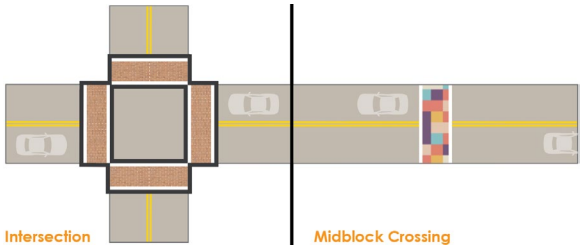
$200-$300 per patterned square metre
Material expenditures vary according to size of crosswalk, choice of paint/stamped concrete/brick

ADVANTAGES

- Alert drivers to a change in area context/character
- Positive aesthetic value

DISADVANTAGES

- Depending on the material used, textured crosswalk can make crossing more difficult for those with mobility aids and the visually impaired
- Materials may be costly and maintenance burden greater than painted crosswalks
- Less effective during winter when obscured by snow and ice



DESIGN

- While able to be implemented alone, texturing is often used to enhance other elements such as raised crosswalks.
- Color is typically added as a visual cue to increase effectiveness through earlier indication of the presence of a crosswalk.
- While not specifically defined, dimensions should be limited to the area required to provide adequate visual recognition.

OPERATIONS AND MAINTENANCE

- Textured crosswalk require more frequent maintenance action due to likelihood of uneven transitions between asphalt and other materials.
- Similar to painted crosswalks, stamped, patterned, or painted textured crosswalks require repainting at regular intervals to maintain appearance and effectiveness.

Bicycle Boulevard

Installation of signage and pavement markings on streets with less vehicle traffic indicating that the roadways are shared facilities for bicycles and automobiles. Sometimes referred to as neighbourhood greenways, bicycle boulevards typically combine elements such as speed cushions, bulb-outs, diverters, signage, and pavement markings to create useful low-stress routes parallel to heavily trafficked corridors.

MEASURE

Awareness

PRIMARY PURPOSE

Safety

ACCOMPANYING SIGNAGE

COST CONSIDERATIONS

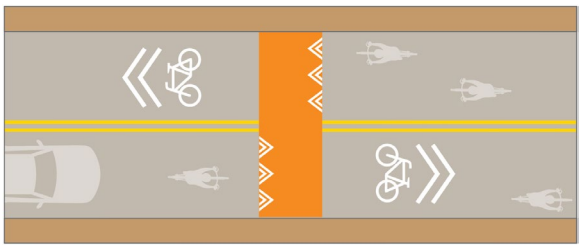
Implementations costs vary as a function of the number of installed vertical control elements, signage, pavement markings

ADVANTAGES

- Well programmed bicycle boulevards greatly expand an official lower stress cycling network
- Vehicular access is maintained
- Can also slow and limit cut-through traffic

DISADVANTAGES

- May greatly increase trip length for cyclists versus a comparable vehicular route depending on street grid connectivity



DESIGN

- Bicycle boulevards are most appropriate for streets already experiencing lower vehicular speeds and volumes.
- Clear signage and directional pavement markings enhance bicycle boulevard corridors that follow indirect routes.
- Bicycle boulevards create a major opportunity to integrate many forms of green infrastructure into speed and volume management.
- Traffic signals may be required to ensure safety of cyclists where bicycle boulevards cross high vehicular volume streets.

OPERATIONS AND MAINTENANCE

- Post-implementation traffic conditions should be monitored to ensure conditions meet desired targets.
- Designated bicycle boulevards should receive higher priority within street maintenance service plans.

Radar Speed Display Sign

Radar-activated devices that display the speeds of approaching vehicles and may display an alert that a driver is violating the speed limit. The signs are designed to reduce speeds and promote cautious driving by creating a sense of the presence of official surveillance.

MEASURE

Awareness

PRIMARY PURPOSE

Speed Reduction

COST PER MEASURE

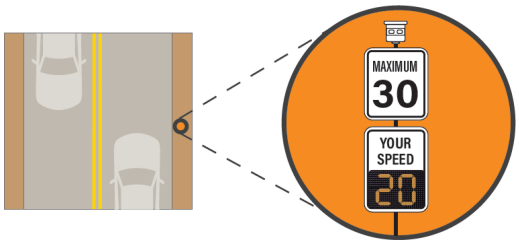
Highly varied based on vendor, style, power source, mounting pole, physical installation and potential electrical work

ADVANTAGES

- Minimal to no impact on transit/emergency vehicle operations
- Minimal to no impact on physical roadway features such as drainage
- Can be used at multiple locations
- Less expensive than direct enforcement
- Useful where physical measures are not feasible due to roadway constraints

DISADVANTAGES

- Initial capital cost
- Two units required to serve both directions of travel
- Requires ongoing maintenance
- Effectiveness may wane if overused and drivers perceive no likely true enforcement



DESIGN

- Devices may be portable or permanent.
- Signs may include displayed messages when a vehicle is in violation of the speed limit such as SLOW DOWN or REDUCE SPEED.
- Signs may be effective when posted in a transition zone to a lower speed area.

OPERATIONS AND MAINTENANCE

- Speed display signs require a reliable power source. Many contemporary models are equipped with backup batteries or solar panels that should be inspected regularly.
- Rotation, relocation, or repair of damaged signs requires action on the part of public works.
- Continually ensure sign visibility is not blocked by vegetation or other obstacles.

On-Road Messaging

Pavement markings communicate a higher sense of priority and the potential for a significant change in the roadway to drivers. Messages may emphasize the presence of traffic calming features.

MEASURE

Awareness

PRIMARY PURPOSE

Safety

COST PER MEASURE

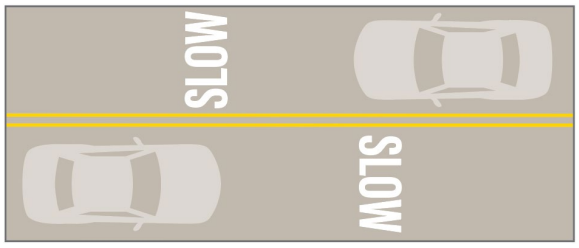
$200-$300 per painted square metre
Material expenditures vary according to number and size of messages

ADVANTAGES

- Minimal to no impact on transit/emergency vehicle operations
- Minimal to no impact on physical roadway features such as drainage

DISADVANTAGES

- Requires ongoing maintenance
- Less effective during winter
- May impact cyclists or motorcycles
- May increase roadway noise



DESIGN

- Often used in conjunction with gateways or other traffic calming measures.
- Typically placed in a transition zone or along a bicycle boulevard.
- Added colour may add to effectiveness
- Use skid-resistant surfacing and paints

OPERATIONS AND MAINTENANCE

- Similar to painted crosswalks, stamped, on-road messaging requires repainting at regular intervals to maintain appearance and effectiveness.

Traffic Calmed Neighbourhood/ Community Safety Zone Signs

Signs indicating that the driver is either entering a neighborhood that has forms of traffic calming measures in place or a community safety zone where fines are doubled for traffic related incidents or violations. Both signs are intended to enhance driver awareness and encourage safe driving.

MEASURE

Awareness

PRIMARY PURPOSE

Speed Reduction

COST PER MEASURE

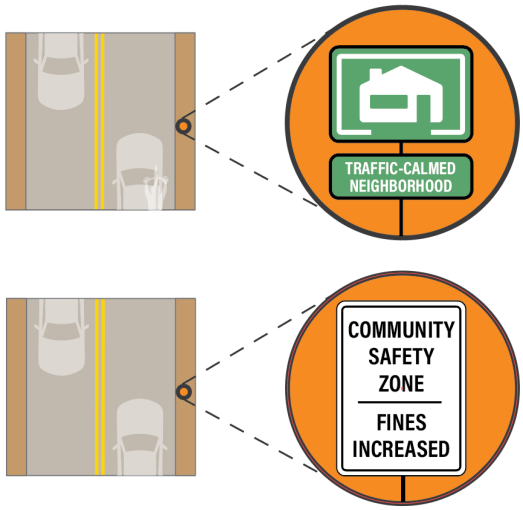
Varied based on vendor, size of signage, material type, sheeting type, mounting pole

ADVANTAGES

- Consequences of enforcement and increased fines increase effectiveness
- Minimal to no impact on transit/emergency vehicle operations
- Minimal to no impact on physical roadway features such as drainage

DISADVANTAGES

- Can lose effectiveness if deployment is not selective and appropriate
- Requires input and commitment from police for the enforcement needed to retain maximum effectiveness



DESIGN

- Establishment of zones and use of signs must be authorized by local by-laws.
- Community safety zones are typically implemented near public places such as schools, daycare facilities, senior homes, or hospitals.
- Signs must be posted at each limit of a community safety zone.

OPERATIONS AND MAINTENANCE

- Responsibility for replacement and/or repair of damaged signs and posts.
- Continually ensure sign visibility is not blocked by vegetation or other obstacles.

Appendix B

Recommended Improvement Costs and Prioritization

Unit Price Schedule

ID	Description	Unit	2024 Unit Value	Comments/Assumptions
1	Signed Bike Route with Sharrow Lane Markings	Linear km	$ 11,760	Price for both sides of the road, includes route signs every 330m, and sharrow stencil every 75m as per Ministry Guidelines.
2	Signed Bike Route with Buffered Paved Shoulder in conjunction with existing road reconstruction / resurfacing	Linear km	$ 417,220	Price for both sides of the road, 1.5m paved shoulder + 0.5 to 1.0m paved buffer, assumes cycling project pays for additional granular base, asphalt, edge lines and signs (buffer zone framed by white edge lines)
3	Conventional 1.5m-1.8m Bicycle Lanes by Adding Bike Lane Markings and Signs	Linear km	$ 32,760	Price for both sides of the road, includes signs, stencils, and edge line. Price is for thermoplastic paint.
4	Conventional 1.5m-1.8m Bicycle Lanes in Conjunction with a New Road or Road Reconstruction Project	Linear km	$ 365,980	Price for both sides of the road, assumes 1.5m bike lanes on both sides of the roadway (1.5m x 2 sides = 3.0m). Includes catch basin leads, asphalt, signs, pavement markings sub-base only. Road project funds all other improvements
5	Buffered Bicycle Lane with Flex Bollards - Assumed New Road or Road Reconstruction/Widening Already Planned	Linear km	$ 525,820	Price for both sides of the road, assumes 1.5m bike lanes + flex bollards centered in hatched buffer zone at 10m intervals. Includes catch basin leads, asphalt, signs, edge line pavement markings (both sides of buffer zone) sub-base only.
6	Uni-directional Cycle Tracks: Raised and Curb Separated - Retrofit Existing Roadway	Linear km	$ 809,850	Both sides. Includes construction but excludes design and signal modifications. Form of cycle track and materials as well as related components such as bike signals, upgrade/modification of signal controllers, utility/lighting pole relocations, bike boxes etc. are excluded and are project specific and will impact unit price.
7	Hard Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in an Urban Setting (New)	Linear km	$ 484,020	3.0m wide hard surface pathway (asphalt) within park setting (normal conditions) 90mm asphalt depth. Price depends of scale / complexity of project. Excludes drainage features and landscaping
8	Granular Surfaced Off-Road Multi-Use Trail Outside of Road Right-of-Way in an Urban Setting	Linear km	$ 233,300	3.0m wide, compacted stone dust surface normal site conditions. Price depends of scale / complexity of project. Excludes drainage features and landscaping
10	Granular Surfaced Multi-Use Trail in a Woodland Setting	Linear km	$ 180,290	2.4m wide, compacted stone dust surface. Price depends on scale / complexity of project.
11	Sidewalk, New Construction, Single Side of Roadway, Adjacent to Curb	Linear km	$ 463,170	Price for 1.8m concrete sidewalk. Include site prep., select utility relocation, minor drainage modifications / traffic control.
12	Roundabout, New Construction	each	$ 1,268,453	Price to construct a roundabout. Includes removals and streetlighting. Does not include landscaping or servicing infrastructure.
13	Signalized Intersection	each	$ 400,000	Includes only the capital and installation costs of new traffic signals. Does not include geometric modifications, removals, streetlighting, landscaping, or servicing infrastructure.
14	Widen and Add Lanes to a Two-Lane Non-Local Roadway	Linear km	$ 3,834,646	All-inclusive price to widen an existing roadway per Ministry of Transportation of Ontario parametric estimating guide.
15	Construct a New or Extend an Existing Two-Lane Non-Local Roadway	Linear km	$ 3,222,060	All-inclusive price to create or extend an existing roadway per Ministry of Transportation of Ontario parametric estimating guide.
16	Construct a New or Extend an Existing Urban Local Street	Linear km	$ 3,058,227	All-inclusive price to create or extend an existing local street per City of Ottawa development cost.
17	Two Way Active Transportation Multi-Use Path within Road Right-of-Way	Linear km	$ 471,300	3.0m wide hard surface pathway (asphalt) within road right of way (no utility relocations). Price assumes existing sidewalk to be removed.
17b	Two Way Active Transportation Multi-Use Path within Road Right-of-Way	Linear km	$ 400,650	2.5m wide hard surface pathway (asphalt) within road right of way (no utility relocations). Price assumes existing sidewalk to be removed.

***All unit prices exclude tax, contingency, design and approvals costs.**

Recommended Transportation Improvements and Evaluation Scores

Mode	ID	Facility	Roadway	Description	Limits	Linear KM	Phasing	Construction Cost	Relative Operational Cost	Environmental Assessment Class	Project Evaluation						
											Network Resilience	Network Connectivity and Equity	User Safety	Destination Access	Construction and Feasibility Factors	Development Support	Total Score
Cycling Improvements	CR1	Signed Route	Alma Street	Signed cycling route with signage and sharrow markings on the roadway both directions.	Between Notre Dame Street in the east and Simoneau Street in the west.	0.3	Long-Term	$3,269	Low	Exempt	1	1	1	2	4	1	10
	CR2	Protected Bike Lane	Carmen Bergeron Street	Buffered bike lane with flex bollards, signage, and cycling lane markings both directions.	Between County Road 17 in the north and Richelieu Street in the south.	0.1	Short-Term	$61,521	Medium	Exempt	2	4	3	2	2	1	14
	CR3	Paved Shoulder	Caron Street	Buffered Paved shoulder with signage on both sides of the roadway.	Between the new Bronze Avenue in the north and Baseline Road in the south.	1.6	Long-Term	$678,400	Low	Exempt	2	4	2	1	3	2	14
	CR4	Signed Route	Du Parc Avenue	Signed cycling route with signage and sharrow markings on the roadway both directions.	Between Simoneau Street in the east and St Joseph Street in the west.	0.6	Short-Term	$7,115	Low	Exempt	1	1	1	4	4	1	12
	CR5	Protected Bike Lane	Edwards Street	Buffered bike lane with flex bollards, signage, and cycling lane markings both directions.	Between Laurier Street in the south and County Road 17 in the north.	0.4	Short-Term	$215,586	Medium	Exempt	2	4	3	2	4	1	16
	CR6	Painted Bike Lane	Expansion Lands Street "B"	**Per the EXPANSION LANDS SECONDARY PLAN:** Painted bike lane with signage and cycling lane markings both directions.	Between David Street in the north and the urban area boundary in the south.	1.0	Long-Term	$358,660	Medium	Included in Roadway EA for Expansion Lands Street B	2	2	2	1	1	3	11
	CR7	Protected Bike Lane	Laporte Street	Buffered bike lane with flex bollards with signage and cycling lane markings both directions.	Between Laurier Street in the east and County Road 17 in the west.	0.3	Short-Term	$139,868	Medium	Exempt	2	4	3	2	2	1	14
	CR8	Painted Bike Lane	Laurier Street	Painted bike lane with signage and cycling lane markings both directions.	Between Heritage Drive in the west and County Road 17 in the east	3.4	Short-Term	$112,039	Medium	Exempt	2	4	2	3	2	1	14
	CR9	Painted Bike Lane	Patricia Street	Painted bike lane with signage and cycling lane markings both directions.	Between St. Joseph Street in the east and Heritage Drive in the west.	1.2	Short-Term	$38,329	Medium	Exempt	2	4	2	2	2	1	13
	CR10	Protected Bike Lane	Richelieu Street	Buffered bike lane with flex bollards, signage, and cycling lane markings both directions.	Between Carmen Bergeron Street in the west and	0.2	Short-Term	$88,864	Medium	Exempt	2	4	3	2	2	1	14
	CR11	Painted Bike Lane	Saint Joseph Street	Painted bike lane with signage and cycling lane markings both directions.	Between Laurier Street in the north and Avenue du Parc in the south.	0.1	Short-Term	$4,685	Medium	Exempt	2	4	2	4	2	1	15
Multi-Use Paths and Trails	CR12	Multi-Use Path	Bronze Avenue Extension (New)	**Per the EXPANSION LANDS SECONDARY PLAN:** Build multi-use path opposite sidewalk.	Between Caron Street in the west and David Street in the east.	1.3	Long-Term	$506,422	Medium	Included in Roadway EA for Bronze Avenue Extension	2	2	2	1	1	3	11
	CR13	Multi-Use Path	Caron Street	New Multi-Use Path to provide neighborhood internal bicycle and pedestrian connections	Between David Street in the north and the new Bronze Avenue in the south	0.3	Medium-Term	$133,817	Medium	Exempt	3	4	3	1	2	2	15
	CR14	Multi-Use Path	Côté Street	New Multi-Use Path to provide neighborhood internal bicycle and pedestrian connections	Between Dianne Avenue in the east and Jasper Crescent in the west.	0.3	Long-Term	$100,163	Medium	Exempt	3	4	3	1	2	1	14
	CR15	Multi-Use Path	Dalrymple Drive	New Multi-Use Path to provide neighborhood internal bicycle and pedestrian connections	Between Dianne Avenue in the south and Caron Street in the east.	0.5	Long-Term	$214,348	Medium	Exempt	3	4	3	1	2	1	14
	CR16	Multi-Use Path	David Street	**Per the EXPANSION LANDS SECONDARY PLAN:** Build multi-use path opposite sidewalk.	Between Caron Street in the west and the new Bronze Avenue in the east.	0.9	Long-Term	$355,377	Medium	Included in Roadway EA for David Street	2	4	2	1	1	1	11
	CR17	Multi-Use Path	Descôtes Circle	New Multi-Use Path to provide neighborhood internal bicycle and pedestrian connections	Between Richelieu Street in the south and Lemay CIrcle in the north.	0.2	Long-Term	$70,514	Medium	Exempt	3	4	3	1	2	1	14
	CR18	Multi-Use Path	Des Pins Avenue	New Multi-Use Path to provide neighborhood internal bicycle and pedestrian connections	Between Dalrymple Drive in the east and the existing School pathway in the west.	0.6	Medium-Term	$229,572	Medium	Exempt	3	4	3	2	2	1	15
	CR19	Multi-Use Path	Dianne Avenue	New Multi-Use Path to provide neighborhood internal bicycle and pedestrian connections	Between Côté Street in the south and Dalrymple Drive in the north.	0.1	Long-Term	$57,694	Medium	Exempt	3	4	3	1	2	1	14
	CR20	Multi-Use Path	Heritage Drive	New Multi-Use Path replacing sidewalk on one side of street to provide neighborhood internal bicycle connections	Between the proposed connection to Sylvain Street in the south and Laurier Street in the north.	0.6	Short-Term	$225,566	Medium	Exempt	2	4	2	2	2	1	13
	CR21	Multi-Use Path	Industrielle Street	New Multi-Use Path opposite sidewalk to provide neighborhood internal bicycle and pedestrian connections	Between County Road 17 in the south and the roundabout in the east.	0.5	Long-Term	$201,527	Medium	Exempt	2	4	2	2	3	1	14
	CR22	Multi-Use Path	Jasper Crescent	New Multi-Use Path to provide neighborhood internal bicycle and pedestrian connections	Between the neighbourhood connecting trail to Topaze Crescent in the south and Côté Street in the north.	0.1	Long-Term	$58,094	Medium	Exempt	3	4	3	1	2	1	14
	CR23	Multi-Use Path	La Berge Street Extension (Proposed)	Bi-directional multi-use path along roadway extension to provide bicycle and pedestrian connections.	Between County Road 17 in the north and the existing Laurier Street in the south.	0.3	Long-Term	$106,974	Medium	Included in Roadway EA for La Berge Street Extension	2	4	2	1	1	1	11
	CR24	Multi-Use Path	Laporte Street	Maintain existing sidewalk and add a Multi-Use Path to the opposite side of the street to provide neighborhood internal bicycle connections	Between Laurier Street in the west and Sylvain Street in the east.	0.4	Medium-Term	$168,674	Medium	Exempt	3	4	3	2	3	1	16
	CR25	Multi-Use Path	Laurier Street/Poupart Road	Buffered bike lane with flex bollards with signage and cycling lane markings both directions.	Between Richelieu Street in the west, and Heritage Drive in the east	1.0	Medium-Term	$408,663	Medium	Exempt	2	4	3	3	2	1	15
	CR26	Multi-Use Path	Laviolette Street	New Multi-Use Path to provide neighborhood internal bicycle and pedestrian connections	Between St Denis Street in the south and Laurier Street in the north.	0.6	Long-Term	$240,390	Medium	Exempt	3	4	3	1	2	1	14
	CR27	Multi-Use Path	Lemay Circle	New Multi-Use Path to provide neighborhood internal bicycle and pedestrian connections	Between Descôtes Circle in the south and the Richelieu Grande-Rivière Park Trail in the north.	0.4	Long-Term	$151,846	Medium	Exempt	3	4	3	1	2	1	14
	CR28	Multi-Use Path	Notre Dame Street	New Multi-Use Path to provide neighborhood internal bicycle and pedestrian connections	Between Des Pins Avenue in the south and Laurier Street in the north.	0.6	Long-Term	$232,778	Medium	Exempt	3	4	3	2	2	1	15
	CR29	Multi-Use Path	Poupart Road	**Per the St-Jean Street - Poupart Side Road MUNICIPAL ENVIRONMENTAL ASSESSMENT:** New multi-use path on the north side of Poupart Road built as part of the Poupart Road widening.	Between St-Jean Street in the east and the proposed West Roadway extension.	1.1	Short-Term	$428,696	Medium	EA in Progress	3	4	3	2	3	3	18
	CR30	Multi-Use Path	Poupart Road	**Per the St-Jean Street - Poupart Side Road MUNICIPAL ENVIRONMENTAL ASSESSMENT:** New multi-use path on the east side of Poupart Road built as part of the Poupart Road widening.	Between the proposed West Roadway extension in the south and Richelieu Street in the north.	0.4	Short-Term	$174,283	Medium	EA in Progress	3	4	3	2	3	3	18
	CR31	Multi-Use Path	Richelieu Street	New Multi-Use Path opposite sidewalk to provide neighborhood internal bicycle and pedestrian connections	Between Poupart Road in the west and Descôtes Circle in the east	0.2	Medium-Term	$90,948	Medium	Exempt	3	4	3	2	2	1	15
	CR32	Multi-Use Path	Saint Denis Street	New Multi-Use Path to provide neighborhood internal bicycle and pedestrian connections	Between Laviolette Street in the east and St. Jacques Street in the west.	0.4	Long-Term	$163,065	Medium	Exempt	3	3	3	1	2	1	13
	CR33	Multi-Use Path	Saint Jean Street	New multi-use path on the north side of St. Jean Street built as part of development.	Between the new Bronze Avenue in the east and Poupart Road in the west.	0.6	Short-Term	$235,582	Medium	EA in Progress	3	4	3	2	1	3	16
	CR34	Multi-Use Path	Topaze Crescent	New Multi-Use Path to provide neighborhood internal bicycle and pedestrian connections	Between Docteur Corbeil Boulevard in the south and the neighbourhood connecting trail to Jasper Crescent in the north.	0.3	Long-Term	$106,172	Medium	Exempt	3	4	3	1	2	1	14
	CR35	Multi-Use Path	West Roadway (Proposed)	**Per the OFFICIAL PLAN:** New Multi-Use path on the north side of the New West Roadway through the Rockland West Secondary Lands.	Between Poupart Road in the east and County Road 17 in the west.	1.4	Long-Term	$548,089	Medium	Included in Roadway EA for proposed West Roadway	**Limited Info as no land use plan is in place. This link will need to be further evaluated after Rockland West Secondary Plan is completed**						
	CR36	Multi-Use Path	Etienne, Nadine (Bourget)	New Multi-Use path to provide pedestrian and bicycle connections between village neighbourhoods and the P-R Rec. Trail.	Between Levis Street (P-R Rec Trail) in the east and Marcil Road in the west.	0.8	Long-Term	$329,735	Medium	Exempt	3	4	3	1	2	1	14
	CR37	Multi-Use Path	Kingsley Street (Bourget)	New Multi-Use path to provide pedestrian and bicycle connections between village neighbourhoods.	Between Lavigne Street in the east and Marcil Road in the west.	0.9	Long-Term	$362,989	Medium	Exempt	3	4	3	1	2	1	14

	CR38	Multi-Use Path	Lavigne Street (Bourget)	New Multi-Use path to provide pedestrian and bicycle connections between village neighbourhoods and the P-R Rec. Trail.	Between Laval Street in the south and Levis Street (P-R Rec Trail) in the north.	0.8	Medium-Term	$312,106	Medium	Exempt	3	4	3	2	2	1	**15**
	CR39	Multi-Use Path	Marcil Road (Bourget)	New Multi-Use path to provide pedestrian and bicycle connections between village neighbourhoods.	Between Laval Street in the south and the Prescott-Russell Recreational Trail in the north.	1.1	Medium-Term	$424,689	Medium	Exempt	3	4	3	1	2	1	**14**
	CR40	Multi-Use Path	Moise-Gendron, Colette, Lemery (Bourget)	New Multi-Use path to provide pedestrian and bicycle connections between village neighbourhoods and the P-R Rec. Trail.	Between Champlain Road in the east and P-R Rec Trail access off of Rue Moise-Gendron in the west.	0.6	Long-Term	$249,204	Medium	Exempt	3	4	3	1	2	1	**14**
	CR41	Multi-Use Path	Montcalm, Potvin (Bourget)	New Multi-Use path to provide pedestrian and bicycle connections between village neighbourhoods.	Between Champlain Road in the south and Laval Street in the north.	0.4	Long-Term	$149,843	Medium	Exempt	3	4	3	2	2	1	**15**
	CR42	Multi-Use Path	Clarence Crossing Roadway Extension (Potential)	Bi-directional multi-use path along roadway extension to provide bicycle and pedestrian connections to/from Clarence Crossing development.	Between Wilson Road in the east and the Clarence Crossing development lands in the west.	0.2	Long-Term	$80,130	Medium	Included in Potential Future Roadway EA	**Limited Info as no land use plan is in place. This link will need to be further evaluated after Clarence Crossing Development is completed**						
Roadways	**CR43**	Roadway	Bronze Avenue Extension (New)	**Per the EXPANSION LANDS SECONDARY PLAN:** Extension of Bronze Avenue with a two-lane cross-section. Will include sidewalks and on-street bike lanes.	Between Caron Street in the west and David Street in the east.	1.3	Long-Term	$4,072,684	High	Schedule C	4	2	3	1	1	3	**14**
	CR44	Roadway	Edwards Street	**Per the OFFICIAL PLAN:** Extension of Edwards Street to loop to County Road 17.	Between existing northern extent of Edwards Street to loop south and connect with County Road 17.	0.6	Long-Term	$1,997,677	High	Eligible for Screening (B)	2	2	1	1	1	3	**10**
	CR45	Roadway	Expansion Lands Street "B"	**Per the EXPANSION LANDS SECONDARY PLAN:** New two-lane north-south roadway to service the new expansion lands area. Will have sidewalks and on-street bike lanes on boths sides of the road.	Between David Street in the north and the urban area boundary in the south.	1.0	Long-Term	$3,157,619	High	Schedule C	4	2	3	1	1	3	**14**
	CR46	Roadway	La Berge Street Extension (Proposed)	Extension of La Berge Street with multi-use path and sidewalk on one side of the road.	Between County Road 17 in the north and the existing Laurier Street in the south.	0.3	Long-Term	$860,290	High	Eligible for Screening (B)	4	4	3	1	1	1	**14**
	CR47	Intersection	La Berge Street/County Road 17	**Per the OFFICIAL PLAN:** Upgrade existing stop controlled intersection with a signalized intersection.	At the intersection of La Berge Street, County Road 17, and the proposed La Berge Street extension.	N/A	Long-Term	$400,000	Medium	Exempt	1	1	4	1	3	1	**11**
	CR48	Roadway	Poupart Road	**Per the St-Jean Street - Poupart Side Road MUNICIPAL ENVIRONMENTAL ASSESSMENT:** Road widening from two lanes to four. Will include a multi-use pathway on the north side of the roadway.	Between Bronze Avenue in the east and the north-south section of Poupart Road in the west.	1.1	Short-Term	$4,141,418	High	EA in Progress	1	1	1	1	1	3	**8**
	CR49	Intersection	Poupart Road	**Per the St-Jean Street - Poupart Side Road MUNICIPAL ENVIRONMENTAL ASSESSMENT:** New roundabout at new intersection.	At the entrance to the future Stewart Village development	N/A	Short-Term	$1,268,453	Medium	EA in Progress	1	1	3	1	1	3	**10**
	CR50	Intersection	Poupart Road/Richelieu Street	**Per the OFFICIAL PLAN:** Upgrade existing stop controlled intersection with a signalized intersection.	At the intersection of Poupart Road and Richelieu Street.	N/A	Medium-Term	$400,000	Medium	Exempt	1	1	4	2	3	1	**12**
	CR51	Intersection	Poupart Road/Saint Jean Street	**Per the St-Jean Street - Poupart Side Road MUNICIPAL ENVIRONMENTAL ASSESSMENT:** New roundabout to replace the existing STOP controlled intersections.	At the intersection of St-Jean Street and Poupart Road.	N/A	Short-Term	$1,268,453	Medium	EA in Progress	1	1	2	1	1	3	**9**
	CR52	Intersection	Poupart Road/New West Roadway	**Per the St-Jean Street - Poupart Side Road MUNICIPAL ENVIRONMENTAL ASSESSMENT:** New roundabout at new intersection.	At the future intersection of Poupart Road and the New West Roadway.	N/A	Short-Term	$1,268,453	Medium	EA in Progress	1	1	2	1	1	3	**9**
	CR53	Intersection	Richelieu Street/Carmen Bergeron Street	Upgrade existing stop controlled intersection with a signalized intersection.	At the intersection of Richelieu Street and Carmen Bergeron Street	N/A	Medium-Term	$400,000	Medium	Exempt	1	1	4	2	3	1	**12**
	CR54	Intersection	Saint Jean Street/Bronze Avenue	**Per the St-Jean Street - Poupart Side Road MUNICIPAL ENVIRONMENTAL ASSESSMENT:** New roundabout at new intersection.	At the future intersection of St-Jean and the new Bronze Avenue servicing the southern end of Morris Village.	N/A	Short-Term	$1,268,453	Medium	EA in Progress	1	1	2	1	1	3	**9**
	CR55	Roadway	Saint Jean Street	**Per the St-Jean Street - Poupart Side Road MUNICIPAL ENVIRONMENTAL ASSESSMENT:** Road widening from two lanes to four south of new roundabout.	Between Poupart Road in the north and the urban area boundary in the south.	0.5	Short-Term	$2,100,236	High	EA in Progress	1	1	1	1	1	3	**8**
	CR56	Roadway	Saint Jean Street	**Per the St-Jean Street - Poupart Side Road MUNICIPAL ENVIRONMENTAL ASSESSMENT:** Road widening from two lanes to four east of new roundabout.	Between Poupart Road in the west and the new Bronze Avenue in the east.	0.5	Short-Term	$1,917,323	High	EA in Progress	1	1	1	1	1	3	**8**
	CR57	Roadway	West Roadway (Proposed)	**Per the OFFICIAL PLAN:** New Major Collector roadway between County Road 17 and Poupart Road to service a future developable area. Alignment, cross-section, and Design still needs to be determined based on potential development that is still to be determined. This roadway should include provisions of active transportation including pedestrian and cycling facilities.	Between Poupart Road in the east and County Road 17 in the west.	1.4	Long-Term	$4,407,778	High	Schedule C	**Limited Info as no land use plan is in place. This link will need to be further evaluated after Rockland West Secondary Plan is completed**						
	CR58	Roadway	Clarence Crossing Roadway Extension (Potential)	Collector roadway extension linking Clarence Crossing development to wider roadway network.	Between Wilson Road in the east and the Clarence Crossing development lands in the west.	0.2	Long-Term	$644,412	Medium	Eligible for Screening (B)	**Limited Info as no land use plan is in place. This link will need to be further evaluated after Clarence Crossing Development is completed**						
Pedestrian Improvements	**CR59**	Sidewalk (One Side)	Alma Street	Build sidewalk on the south side of the street to continue sidewalk from Avenue du Parc.	Between Notre Dame Street In The East And Simoneau Street In The West.	0.4	Long-Term	$163,036	Low	Exempt	2	4	2	2	2	1	**13**
	CR60	Sidewalk (One Side)	Bronze Avenue Extension (New)	**Per the EXPANSION LANDS SECONDARY PLAN:** Build sidewalk on one side of the street.	Between Caron Street in the west and David Street in the east.	1.3	Long-Term	$585,447	Medium	Included in Roadway EA for Bronze Avenue Extension	2	2	2	1	1	3	**11**
	CR61	Sidewalk (One Side)	Caron Street	Build sidewalk on the west side of the street to complement the proposed Multi-Use Path.	Between David Street in the north and the new Bronze Avenue in the south.	0.3	Medium-Term	$154,699	Low	Exempt	2	2	2	1	4	2	**13**
	CR62	Sidewalk (One Side)	David Street	**Per the EXPANSION LANDS SECONDARY PLAN:** Build sidewalk on one side of the street.	Between Caron Street in the west and the new Bronze Avenue in the east.	0.9	Long-Term	$410,832	Medium	Included in Roadway EA for David Street	2	4	2	1	1	1	**11**
	CR63	Sidewalk (One Side)	Dianne Avenue	Sidewalk on one side of the street.	Between Dalrymple Street In The South And Paul Terrace In The North.	0.1	Long-Term	$24,483	Low	Exempt	2	4	2	1	2	1	**12**
	CR64	Sidewalk (One Side)	Emerald Street	Sidewalk on one side of the street.	Between Jasper Crescent In The East To Silver Lane In The West	0.4	Medium-Term	$201,896	Low	Exempt	2	4	2	1	2	1	**12**
	CR65	Sidewalk (Both Sides)	Expansion Lands Street "B"	**Per the EXPANSION LANDS SECONDARY PLAN:** Build sidewalks on both sides of the street.	Between David Street in the north and the urban area boundary in the south.	1.0	Long-Term	$907,813	Medium	Included in Roadway EA for Expansion Lands Street B	2	2	2	1	1	3	**11**
	CR66	Sidewalk (One Side)	Industrielle Street	Sidewalk on one side of the street opposite Multi-Use Path.	Between County Road 17 in the south and the roundabout in the east.	0.5	Long-Term	$232,975	Medium	Exempt	2	3	2	1	3	1	**12**
	CR67	Sidewalk (One Side)	La Berge Street Extension (Proposed)	Sidewalk on one side of the street to provide pedestrian connections and continue the profile of the existing road in its extension.	Between County Road 17 in the north and the existing Laurier Street in the south.	0.3	Long-Term	$123,666	Medium	Included in Roadway EA for La Berge Street Extension	2	4	2	1	1	1	**11**
	CR68	Sidewalk (One Side)	Laval Street (Bourget)	Build sidewalk on the north side of the street to continue existing sidewalk.	From Bourget Home Hardware west to Marcil Road	0.5	Medium-Term	$250,112	Low	Exempt	2	4	2	2	4	1	**15**
	CR69	Sidewalk (One Side)	Maisonneuve and Saint Pierre Streets (Bourget)	Sidewalk on one side of the street.	Between Lavigne Street in the west and Laval Street in the east.	0.3	Long-Term	$152,383	Low	Exempt	2	4	2	2	2	1	**13**
	CR70	Sidewalk (One Side)	Patricia Street	Build sidewalk on the south side of the street to continue existing sidewalk.	Between St-Jacques Street In The East To Heritage Drive In The West	0.7	Medium-Term	$327,924	Medium	Exempt	2	4	2	4	2	1	**15**
	CR71	Sidewalk (One Side)	Paul Terrace	Sidewalk on one side of the street.	Between Caron Street In The East And Dianne Avenue In The West.	0.2	Long-Term	$97,729	Low	Exempt	2	4	2	1	2	1	**12**
	CR72	Sidewalk (One Side)	Poupart Road	**Per the St-Jean Street - Poupart Side Road MUNICIPAL ENVIRONMENTAL ASSESSMENT:** Sidewalk on one side of the street on the south side.	Between St Jean Street in the east to the proposed West Roadway in the west.	1.1	Short-Term	$495,592	Medium	EA in Progress	2	4	2	2	3	3	**16**

Pede	CR73	Sidewalk (One Side)	Poupart Road	**Per the St-Jean Street - Poupart Side Road MUNICIPAL ENVIRONMENTAL ASSESSMENT:** Sidewalk on one side of the street on the west side.	Between the proposed West Roadway in the south and Richelieu Street in the north.	0.4	Short-Term	$201,479	Medium	EA in Progress	2	4	2	2	4	3	17
	CR74	Sidewalk (One Side)	Richelieu Street	Sidewalk on one side of the street opposite Multi-Use Path.	Between Poupart Road in the west and Descôtes Circle in the east	0.2	Medium-Term	$105,140	Low	Exempt	2	4	2	4	2	1	15
	CR75	Sidewalk (One Side)	Saint Jean Street	**Per the St-Jean Street - Poupart Side Road MUNICIPAL ENVIRONMENTAL ASSESSMENT:** Sidewalk on one side of the street on the south side.	Between the new Bronze Avenue in the east and Poupart Road in the west.	0.6	Short-Term	$272,344	Medium	EA in Progress	2	4	2	2	4	3	17
	CR76	Sidewalk (One Side)	Sterling Avenue	Add sidewalk on the other side of the street so that both sides of the road have a sidewalk.	Between Silver Lane In The North To Docteur Corbeil Boulevard In The South	0.4	Medium-Term	$189,437	Low	Exempt	2	4	2	2	4	2	16
	CR77	Sidewalk (One Side)	West Roadway (Proposed)	**Per the OFFICIAL PLAN:** Sidewalk on the south side of the New West Roadway through the Rockland West Secondary Lands.	Between Poupart Road in the east and County Road 17 in the west.	1.4	Long-Term	$633,617	Low	Included in Roadway EA for proposed West Roadway	2	2	2	1	3	3	13
	CR78	Sidewalk (One Side)	Clarence Crossing Roadway Extension (Potential)	Sidewalk along single side of roadway extension to provide pedestrian connections to/from Clarence Crossing development.	Between Wilson Road in the east and the Clarence Crossing development lands in the west.	0.2	Long-Term	$92,634	Low	Included in Potential Future Roadway EA	**Limited Info as no land use plan is in place. This link will need to be further evaluated after Clarence Crossing Development is completed**						
Developer	D1	Roadway	Bronze Avenue (New)	Complete two-lane roadway construction (Major Collector).	Between Caron Street in the east and Cobalt Street in the west, Granite Street in the east and St-Jean Street in the west.	0.7	Short-Term	$2,094,339	High	Existing Subdivision/Planning Act Agreement	2	2	1	1	3	4	13
	D2	Multi-Use Path	Bronze Avenue (New)	Multi-Use pathway built on the north side of the roadway as part of the construction of the New east-west roadway to service a new subdivision in south Rockland.	Between Caron Street in the east and Cobalt Street in the west, Granite Street in the east and St-Jean Street in the west.	0.7	Short-Term	$260,423	Medium	Existing Subdivision/Planning Act Agreement	2	2	3	1	4	4	16
	D3	Sidewalk (One Side)	Bronze Avenue (New)	Build sidewalk on one side of the street (south).	Between Caron Street in the east and Cobalt Street in the west, Granite Street in the east and St-Jean Street in the west.	0.7	Short-Term	$301,061	Low	Existing Subdivision/Planning Act Agreement	2	2	3	1	4	4	16
	D4	Roadway	Clarence Crossing	Collector roads serving as primary transportation corridors within the Clarence Crossing development and providing external access to/from the primary roadway network.	Throughout the Clarence Crossing development lands east of Clarence Creek.	2.9	Medium-Term	$9,343,974	Medium	Subdivision/Planning Act Agreement	2	2	1	2	3	4	14
	D5	Multi-Use Path	Clarence Crossing	Multi-use pathways parallel to roadways within the Clarence Crossing development that provide additional pedestrian and bicycle connectivity between sidewalks, roadways, and multi-use trails.	Throughout the Clarence Crossing development lands east of Clarence Creek.	3.5	Medium-Term	$1,402,275	Medium	Subdivision/Planning Act Agreement	2	2	3	2	4	4	17
	D6	Sidewalk (One Side)	Clarence Crossing	Sidewalks along a single side of roadways within the Clarence Crossing development that provide additional pedestrian connectivity between multi-use paths and trails.	Throughout the Clarence Crossing development lands east of Clarence Creek.	3.9	Medium-Term	$1,806,363	Medium	Subdivision/Planning Act Agreement	2	2	3	2	4	4	17
	D7	Multi-Use Trail	Clarence Crossing	Off-road trail connections providing additional pedestrian and bicycle connectivity between sidewalks, roadways, and multi-use paths.	Throughout the Clarence Crossing development lands east of Clarence Creek.	5.8	Medium-Term	$2,807,316	Medium	Subdivision/Planning Act Agreement	2	2	3	2	4	4	17
	D8	Roadway	Heritage Drive	**Per the OFFICIAL PLAN:** Extension of Heritage Drive to Sylvain Street.	Between the existing southern extent of Heritage Drive to the existing southern extent of Sylvain Street.	0.1	Medium-Term	$325,428	Medium	Eligible for Screening (B)	4	4	3	1	3	1	16
	D9	Painted Bike Lane	Sterling Avenue	Painted bike lane with signage and cycling lane markings both directions.	Between Docteur Corbeil Boulevard in the north and the new Bronze Avenue in the south.	0.3	Short-Term	$9,697	Medium	Exempt	2	4	2	2	4	3	17
	D10	Multi-Use Path	Sylvain Street	New Multi-Use Path to provide neighborhood internal bicycle and pedestrian connections	Between Laporte Street in the north and the proposed connection to Heritage Drive in the south.	0.2	Medium-Term	$98,159	Low	Exempt	3	4	3	2	2	1	15
County	PR1	Paved Shoulder	Baseline Road	Buffered Paved shoulder with signage on both sides of the roadway.	Between Landry Street in the east and St. Jean Street in the west.	4.2	Long-Term	$1,752,324	Low	Exempt	2	4	2	1	3	1	13
	PR2	Paved Shoulder	County Road 17	**Per the Ottawa Road 174 / County Road 17 ENVIRONMENTAL ASSESSMENT:** Buffered Paved shoulder with signage on both sides of the roadway.	Between the City limits in the east and Laurier Street in the west.	8.6	Long-Term	$3,583,503	Low	EA Completed	2	3	2	1	3	1	12
	PR3	Paved Shoulder	County Road 17	**Per the Ottawa Road 174 / County Road 17 ENVIRONMENTAL ASSESSMENT:** Buffered Paved shoulder with signage on both sides of the roadway.	Between the Canaan Road in the west and Cameron Bergeron Street in the east	1.5	Long-Term	$626,247	Low	EA Completed	2	3	2	1	3	1	12
	PR4	Multi-Use Path	County Road 17	**Per the Ottawa Road 174 / County Road 17 ENVIRONMENTAL ASSESSMENT:** Bi-directional mutli-use path on the south side of County Road 17 for pedestrian and cyclist use.	Between Laurier Street in the east and the proposed West Roadway in the west.	5.9	Long-Term	$2,365,838	Medium	EA Completed	3	4	3	1	3	1	15
	PR5	Paved Shoulder	Du Golf Road	Buffered Paved shoulder with signage on both sides of the roadway.	Between Champlain Street in the east and the Gagné Road in the west.	5.6	Long-Term	$2,315,571	Low	Exempt	2	4	2	2	3	1	14
	PR6	Paved Shoulder	Du Golf Road	Buffered Paved shoulder with signage on both sides of the roadway.	Between Joanisse Road in the east and the City limits in the west.	2.1	Long-Term	$876,162	Low	Exempt	2	3	2	2	3	1	13
	PR7	Paved Shoulder	Joanisse Road	**Per the United Counties COMMUTER CYCLING PLAN:** Buffered Paved shoulder with signage on both sides of the roadway.	Between Baseline Road in the north and 2746 Joanisse Road in the south.	7.7	Medium-Term	$3,200,077	Low	Exempt	2	4	2	2	3	1	14
	PR8	Paved Shoulder	Russell Road	**Per the United Counties COMMUTER CYCLING PLAN:** Buffered Paved shoulder with signage on both sides of the roadway.	Between the city limits in the east and Johnston Road in the west.	2.4	Medium-Term	$982,970	Low	Exempt	2	3	2	2	3	1	13
	PR9	Painted Bike Lane	Saint Jean Street	Painted bike lane with signage and cycling lane markings both directions.	Between Laurier Street in the north and Patricia Street in the south.	0.4	Short-Term	$13,825	Medium	Exempt	2	4	2	2	4	1	15
	PR10	Roadway	Saint Jean Street	**Per the Ottawa Road 174 / County Road 17 ENVIRONMENTAL ASSESSMENT:** Road widening from two to four lanes.	Between Landry Street in the east and the western City limit.	8.9	Long-Term	$34,166,696	Low	EA Completed	1	1	1	1	3	1	8

Appendix C | Public Consultation

From: Young, Rachel (Waterloo)
To: [redacted]
Subject: City of Clarence-Rockland Multi-Modal Transportation Master Plan Notice of Study Commencement and Public Meeting
Date: Wednesday, February 5, 2025 12:25:00 PM
[redacted]

Good afternoon,

The City of Clarence-Rockland (City) is revising its 2019 Multi-Modal Transportation Master Plan (MMTMP). This updated plan addresses emerging challenges, facilitates growth, and incorporates policies to steer transportation and land use decisions effectively. This study is being undertaken in accordance with Approach #1 of the Master Planning Process, as outlined in Appendix 4 of the Municipal Class Environmental Assessment (October 2000, as amended in 2007, 2011, 2015, 2023).

A **Virtual Public Meeting** and an **In-Person Public Meeting** is being planned to present and gather feedback on the MMTMP study process, the goals and objectives of the MMTMP, existing travel conditions and community characteristics, community input on transportation infrastructure in the City, as well as next steps in the MTMP process. This Public Meeting is being held as follows:

Virtual Public Meeting March 5, 2025 at 5:00 PM to 6:30 PM
At the following link: Transportation Master Plan - City of Clarence-Rockland

In-Person Public Meeting: March 6, 2025 from 5:00 PM to 8:00 PM
Address: 1535 Du Parc Avenue, Rockland, Ontario, K4K 1C3

Please see attached Notice of Study Commencement and Notice of Public Meeting for additional information.

Thank you,

Rachel Young
Transportation/Environmental Planner

Direct: (519) 575-4228
Email: Rachel.young2@stantec.com

Stantec
100-300 Hagey Boulevard
Waterloo ON N2L 0A4

Notice of Study Commencement and Public Meeting 1

The City of Clarence-Rockland
Transportation Master Plan

The City of Clarence-Rockland (City) is revising its 2019 Multi-Modal Transportation Master Plan (MMTMP) based on shifts in available transportation options and changes in resident and visitor travel behavior since the original plan was formulated. This updated plan addresses emerging challenges, facilitates growth, and incorporates policies to steer transportation and land use decisions effectively.

The MTMP will be an important resource for the City as it continues to adapt to changing needs, growth and development, and new opportunities. The MMTMP will shape how we travel, help us further understand and define our regional connections, and support the movement of goods and services throughout the region. As part of the MMTMP study process, a vision will be established, actions and policies will be defined, and a financial strategy will be developed to address the short, medium, and long-term transportation needs of the community.

Please note the St. Jean – Poupart Reconstruction Study is not being amended or impacted in scope or design by this Multi-Modal Transportation Master Plan (MMTMP) process. The 2019 MMTMP recommendations for the St. Jean-Poupart area still apply.

The Process
This study is being undertaken in accordance with Approach #1 of the Master Planning Process, as outlined in Appendix 4 of the Municipal Class Environmental Assessment (October 2000, as amended in 2007, 2011, 2015, 2023). As such, the MMTMP will generally address Phases 1 and 2 of the MCEA process and will form the basis for the recommended Schedule B and C transportation infrastructure projects identified within the MMTMP report.

Consultation
A comprehensive engagement process is being undertaken as part of the MMTMP process, and your participation is encouraged to ensure a thoughtful approach is taken to transportation planning. You are invited to visit the City's webpage to subscribe to receive updates on this study, and to review relevant study information.

A **Virtual Public Meeting** and an **In-Person Public Meeting** is being planned to present and gather feedback on the MMTMP study process, the goals and objectives of the MMTMP, existing travel conditions and community characteristics, community input on transportation infrastructure in the City, as well as next steps in the MTMP process. This Public Meeting is being held as follows:

Virtual Public Meeting March 5, 2025 at 5:00 PM to 6:30 PM
At the following link: Transportation Master Plan - City of Clarence-Rockland

In-Person Public Meeting: March 6, 2025 from 5:00 PM to 8:00 PM
Address: 1535 Du Parc Avenue, Rockland, Ontario, K4K 1C3

For more information about this study, please contact:

Charles O. Bonneau
Coordinator, Capital Projects
Phone: 613-446-6022 x2425
Email: EEMPG_MCEA@clarence-rockland.com

Nevena Gazibara
Lead Environmental Planner
Phone: (905) 381-3249
Email: EEMPG_MCEA@clarence-rockland.com

Additional project information and project notices will be posted on the City's website at: (Transportation Master Plan - City of Clarence-Rockland).

All information will be collected in accordance with the *Municipal Freedom of Information and Protection of Privacy Act*. Except for personal information, all comments will become part of the public record.

This notice was issued February 5, 2025

Avis de lancement d'étude et de réunion publique 1

Plan directeur de transport de la Cité de Clarence-Rockland

La Cité de Clarence-Rockland (la Cité) révise son plan directeur de transport multimodal (PDTM) 2019 en fonction des changements dans les options de transport disponibles et des changements dans le comportement de déplacement des résidents et des visiteurs depuis la formulation du plan original. Ce plan actualisé permettra de relever les nouveaux défis, de soutenir la croissance et de mettre en oeuvre des politiques visant à orienter efficacement les décisions en matière de transport et d'utilisation du sol.

Le PDTM constituera une ressource importante pour la Cité qui continuera à s'adapter à l'évolution des besoins, à la croissance et au développement, ainsi qu'aux nouvelles opportunités. Le PDTM façonnera notre façon de nous déplacer, nous aidera à mieux comprendre et définir nos liaisons régionales, et favorisera la circulation des biens et des services dans toute la région. Dans le cadre du processus d'étude du PDTM, une vision sera établie, des mesures et des politiques seront définies, et une stratégie financière sera élaborée pour répondre aux besoins à court, moyen et long terme de la communauté en matière de transport.

Il est à noter que l'étude sur la reconstruction de la section St-Jean et Poupart n'est pas modifiée et que sa portée et sa conception ne sont pas affectées par le processus du plan directeur de transport multimodal (PDTM). Les recommandations du PDTM 2019 pour la section St-Jean et Poupart s'appliquent toujours.

Processus

La présente étude est entreprise conformément à l'approche 1 du processus de préparation des plans directeurs, tel que décrit à l'appendice 4 de l'évaluation environnementale municipale de portée générale (octobre 2000, telle que modifiée en 2007, 2011, 2015 et 2023). À ce titre, le PDTM traitera généralement des phases 1 et 2 du processus d'évaluation environnementale municipale de portée générale et servira de fondement aux projets d'infrastructure de transport des annexes B et C recommandés dans le rapport du PDTM.

Consultation

Un processus d'engagement complet est en cours dans le cadre du processus du PDTM, et votre participation est la bienvenue afin de garantir une approche réfléchie de la planification des transports. Vous êtes invités à vous abonner sur la page Web de la Cité pour obtenir de l'information d'intérêt et des mises à jour sur l'étude.

Une **réunion publique en personne** et une **réunion publique virtuelle** sont prévues pour présenter et recueillir des commentaires sur le processus d'étude du PDTM, les buts et objectifs de la mise à jour du PDTM, et pour communiquer les conditions de déplacement existantes, les caractéristiques de la communauté, les commentaires de la communauté sur l'infrastructure de transport dans la Cité, les améliorations proposées, ainsi que les prochaines étapes du processus du PDTM :

Réunion publique virtuelle : Plan directeur des transports - Cité de Clarence-Rockland
Date et heure : 5 mars, 2025 à partie de 17 :00 jusqu'à 18 :30

Réunion publique en personne : Le 6 mars, 2025 à partie de 17 :00 jusqu'à 20 :00
Adresse : Salle de spectacle Optimiste
1535 Du Parc Ave
Rockland, Ontario

Pour plus d'informations sur cette étude, veuillez contacter :

Charles O. Bonneau
Coordonnateur, Projets en capital
Tél. : 613-446-6022 poste 2425

Nevena Gazibara, Planificateur
Environnemental principal
Tél. : (905) 381-3249

Courriel : EEMPG_MCEA@clarence-rockland.com

Courriel : EEMPG_MCEA@clarence-rockland.com

Des renseignements supplémentaires sur le projet et des avis de projet seront publiés sur le site Web de la Cité au (Plan directeur des transports - Cité de Clarence-Rockland)

Tous les renseignements seront recueillis conformément à la *Loi sur l'accès à l'information municipale et la protection de la vie privée*. À l'exception des renseignements personnels, tous les commentaires seront versés au dossier public.

Cet avis a été publié le 5 février 2025

Multi-Modal Transportation Master Plan

Public Meeting

Summary Report

March 26, 2025

Prepared for:

The City of Clarence-Rockland

Sign-off Sheet

This document entitled City of Clarence-Rockland Multimodal Transportation Master Plan (MMTMP): Public Meeting Summary Memo was prepared by Stantec Consulting Ltd. ("Stantec") for the account of The City of Clarence-Rockland (City) (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Stantec Consulting Ltd.

Prepared by

(signature)

Rachel Young, BES.

Stantec Consulting Ltd.

Reviewed by

(signature)

Nevena Gazibara, B.Sc., MREM, ENV SP.

Multimodal Transportation Master Plan
Public Meeting – Summary

March 2025

TABLE OF CONTENTS

Multimodal Transportation Master Plan
Public Meeting – Summary (Draft)

March 2025

1 INTRODUCTION

The City of Clarence-Rockland (City) has recently revised its 2019 Multi-Modal Transportation Master Plan (MMTMP). This update reflects shifts in available transportation options and changes in resident and visitor travel behavior since the original plan was formulated. Like its earlier version, this updated plan addresses emerging challenges, facilitates growth, and incorporates policies to steer transportation and land use decisions effectively. A comprehensive engagement process is being undertaken as part of the MMTMP process.

The study area for the MMTMP includes the entire City of Clarence-Rockland, within the United Counties of Prescott and Russell.

Two types of public meetings were held, online and in-person, as part of the MMTMP for the City. The Notice of Public Meetings for this study was issued via email to agencies, interested persons and groups, and First Nations on February 7, 2025. A newspaper ad was published on 19, 2025 and February 24, 2025, in the *The Vision* newspaper. The city also posted the notice on the project website on February 55, 2025. The purpose of the notice was to announce the two dates and times for both public meetings and when they would be available for public review and comment, and to inform readers about the purpose and format of the public meeting, as well as where the online materials could be accessed on the City's dedicated webpage for this study (https://www.clarence-rockland.com/en/hotel-de-ville/transportation-master-plan.aspx#Transportation-Master-Plan-2025).

2 PURPOSE OF THE PUBLIC MEETINGS

The purpose of the public meetings was to present and gather feedback on the MMTMP study process, the goals and objectives of the MMTMP, existing travel conditions and community characteristics, community input on transportation infrastructure in the City, suggestions from the project team, as well as next steps in the MMTMP process.

2.1 ONLINE PUBLIC MEETING

A live virtual/ Online Public Meeting was held via Microsoft Teams on March 5, 2025. . An answer and question period took place at the end of the online public meeting where interested individuals could raise their hand and the project team would answer any written or verbal questions. Additionally, comment forms were directed to the City's website where interested persons could submit their input and feedback (i.e., input on challenges and opportunities identified for the MMTMP, preliminary evaluation criteria, proposed alternative solutions) or general comments as well.

2.2 IN-PERSON PUBLIC MEETING

An in-person public meeting was held to provide an alternative method for individuals who could not attend the Online Public Meeting. Comment forms were printed and available at the in-person public meeting and could be submitted to the project team at the meeting. Additionally, the project team and city staff were available to answer any questions from interested persons.

At both meetings, interested persons were also encouraged to contact the study team directly, should they have any additional comments, concerns and/or wished to be added to the study mailing list.

3 NOTIFICATION

The Notice of the Public Meeting was distributed to the public, agencies, utilities, stakeholders and First Nations through the three methods outlined in the Table 1 below:

Table 1: Public Meeting Notification Methods

Method of Distribution	Date of Distribution
Emailed electronic copy to study mailing list	February 7, 2025 and February 25, 2025
City Website Notice	February 5, 2025
Posted in the local newspapers (The Vision)	February 19 and February 24, 2025

Study team member contact information was also provided within the notification, and on the City Website.

A copy of the Notice of Public Meeting and the notification email is included within **Appendix C**.

4 LOCATION, DATE AND TIME

4.1 ONLINE PUBLIC MEETING

As mentioned, the Online Public Meeting was held online on March 5, 2025, from 5:00 PM to 6:30 PM and consisted of a live Microsoft Teams call which was recorded for

documentation. The PowerPoint presentations (in English and French) were then posted on the City's Website, English and French (https://www.clarence-rockland.com/en/hotel-de-ville/transportation-master-plan.aspx#Transportation-Master-Plan-2025), beginning on March 6, 2025.

4.2 In-Person Public Meeting

The In-Public Meeting was held on March 6, 2025, at 153 Du Park Avenue from 5:00 PM to 8:00 PM. Two presentations were then posted on the City's Website, English and French (https://www.clarence-rockland.com/en/hotel-de-ville/transportation-master-plan.aspx#Transportation-Master-Plan-2025), beginning on March 6, 2025.

5 REFERENCE MATERIALS

The following displays were presented as part of the online presentation:

- Welcome
- MMTMP Background and Context
- Transportation Master Plan Study Area
- Master Planning Process
- Vision Statement 2019 vs 2025 Update
- MMTMP Objectives 2019 vs 2025
- Community Characteristics
- Existing Road Network
- Existing Active Transportation Network
- Former Transit Network
- Existing Travel Trends: Traffic Distribution
- Existing Travel Trends:
- Existing Travel Trends
- Existing Travel Trends
- Needs Assessment 2019 vs 2025
- Challenges and Opportunities
- Evaluation Criteria and Evaluation Process
- Road Network Proposed Improvements

March 2024

- Active Transportation Proposed Improvements: Cycling Network
- Active Transportation Proposed Improvements: Pedestrian Network
- Truck Routes Proposed Improvements
- Next Steps
- Thank you for Participating

The following displays were presented as part of the in-person presentation:

- Welcome
- MMTMP Background and Context
- Transportation Master Plan Study Area
- Master Planning Process
- Vision Statement 2019 vs 2025 Update
- MMTMP Objectives 2019 vs 2025
- Existing Road Network
- Existing Active Transportation Network
- Needs Assessment 2019 vs 2025
- Challenges and Opportunities
- Evaluation Criteria and Evaluation Process
- Road Network Proposed Improvements
- Active Transportation Proposed Improvements: Cycling Network
- Active Transportation Proposed Improvements: Pedestrian Network
- Truck Routes Proposed Improvements
- Next Steps
- Thank you for Participating

A copy of the Public Meeting presentations are included within **Appendix C**.

6 FORMAT

6.1 ONLINE PUBLIC MEETING

A live Microsoft Teams presentation was conducted on March 5, 2025, and members of the public were encouraged to participate in an answer and question period after the presentation, or to complete the online comment forms, and to contact the project team to ask questions and/or share any ideas with respect to the study via the study team email (EEMPGM_MCEA@clarence-rockland.com). Comment forms were provided via the City's Website. Online public meeting participants were encouraged to submit their comments online, either within the online comment forms, or by email by March 26, 2025.

6.2 IN-PERSON PUBLIC MEETING

A in-person presentation was conducted on March 6, 2025, and members of the public were encouraged freely walk around to the printed board which were on display. Members of the project team were available at the meeting to answer questions. Interested individuals were encouraged to contact the project team to ask questions and/or share any ideas with respect to the study via the study team email (EEMPGM_MCEA@clarence-rockland.com). Comment forms were provided at the in-person public meeting. Public meeting participants were encouraged to submit their comments in-person, either within or by email by March 26, 2025.

7 PARTICIPATION

7.1 ONLINE PUBLIC MEETING

Seven public participants attended the online public meeting.

7.2 IN-PERSON PUBLIC MEETING

Nine public participants attended the in-person public meeting.

8 PUBLIC MEETING COMMENTS AND RESPONSES

During the public meeting period, participants submitted comments via the City's Website comment form and/or via the email address provided on the City's engagement website. In total, two people submitted comments via the comment form. A summary table of all comments submitted is provided in **Appendix C**.

9 PUBLIC MEETING THEMES

March 2024

Based on the comments submitted via email and discussed at the Online Public Meeting, the following themes were identified:

- Road connections surrounding Bourget
- Concerns with County Road 17 Safety
- Increase in multimulti-use path implementation

10 NEXT STEPS

All comments received to date since the commencement of the study have been reviewed and considered by members of the study team and will continue to be considered as the MMTMP progresses. As a next step, the study team will finalize the MMTMP report and make it available fora a 30-day public comment period.

Meeting Notes

Clarence-Rockland Online Public Meeting

Project/File:	165001314
Date/Time:	March 5, 2025 / 5:00-6:30 PM
Location:	Online
Next Meeting:	In-person March 6, 2025
Attendees:	City of Clarence Rockland:
	Charles Bonneau
	Richard Campeau
	Jonathan Samson
	Stantec:
	Bob Williams
	Nevena Gazibara
	Angelo Renon
	Public:
	[redacted]
	[redacted]
	[redacted]

Item:	Action:
Outbound travel from Bourget to Clarence-Rockland or Ottawa [redacted] asked whether the subdivisions were considered when considering connectivity and increase in traffic flow. Specifically passing lanes or park-and-rides to accommodate these new developments.	Richard: Russel Road is a County Road, thus they take their own Transportation Studies. Clarence-Rockland can make considerations. Bob: At the time of the analysis new development around Bourget was not considered, additionally increasing capacity was not considered along rural roadways. We do recommend some transit feasibility studies which could line up with the park-and-rides.
County Road 17 Safety [redacted] wondered if there was anything planned or being planned to consider safety inbound to Clarence-Rockland from Orleans utilizing County Road 17.	Richard: The Counties of Prescott and Russel and Ottawa have undergone an EA study to see possible solutions. The EA is up for another review. This has been ongoing for over 15 years. There are multiple agencies required to consider safety standards and also possible funding from both the provincial and federal governments.

Meeting adjourned 6:30 PM.

FEUILLE DE COMMENTAIRES

Plan Directeur de Transport Multimodalité Clarence-Rockland

Réunion Publique – www.clarence-rockland.com

Le 6 mars, 2025 1535 Avenue Du Parc, Rockland, Ontario, K4K 1C3

Veuillez répondre aux questions suivantes. Visitez le site web du projet à l'adresse www.clarence-rockland.com pour voir la présentation de la réunion publique et pour soumettre des commentaires supplémentaires.

1. Avez-vous des commentaires à formuler sur les objectifs de transport multimodal?

2. Avez-vous des commentaires sur les critères et le processus d'évaluation?

FEUILLE DE COMMENTAIRES

Plan Directeur de Transport Multimodalité Clarence-Rockland

Réunion Publique – www.clarence-rockland.com

Le 6 mars, 2025 1535 Avenue Du Parc, Rockland, Ontario, K4K 1C3

3. Avez-vous des commentaires sur les améliorations proposées?

Veuillez laisser votre fiche de commentaires remplie dans la boîte de dépôt prévue à cet effet ou la soumettre :
(**Avant le 26 mars, 2025)** à:

Nevena Gazibara, B.Sc., MREM, ENV SP.
Lead Environmental Planner
Stantec Consulting Ltd.
200-835 Paramount Drive
Stoney Creek ON L8J 0B4
Tel. (905) 381-3249
Courriel: Nevena.gazibara@stantec.com

Nom et Adresse (facultatif) VEUILLEZ ÉCRIRE EN LETTRES MOULÉES

Nom: [redacted]

Adresse Postal: [redacted] Y Rd 17

(inclure le code postal) ROCKLAND [redacted]

Tel: [redacted]

Les informations recueillies seront utilisées conformément à la loi sur l'accès à l'information et la protection de la vie privée. À l'exception des informations personnelles, tous les commentaires feront partie du dossier public.

FEUILLE DE COMMENTAIRES

Plan Directeur de Transport Multimodalité Clarence-Rockland

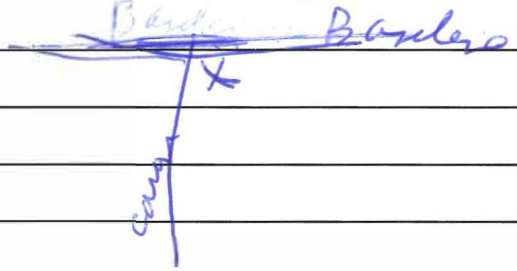
Réunion Publique – www.clarence-rockland.com

Le 6 mars, 2025 1535 Avenue Du Parc, Rockland, Ontario, K4K 1C3

3. Avez-vous des commentaires sur les améliorations proposées?

3 Stop sur - Caron - Dr. Corbeil pour sécurité.

- Caron - Baseline Stop dangereux Vision terrible Haie Cedre à droite



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Tel. (905) 381-3249
Courriel: Nevena.gazibara@stantec.com

Nom et Adresse (facultatif) VEUILLEZ ÉCRIRE EN LETTRES MOULÉES

Nom: [redacted]

Adresse Postal:

(inclure le code postal)

Tel: Courriel:

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Clarence-Rockland

City of Clarence-Rockland Multimodal Transportation Master Plan (MTMP) Update

Public Meeting

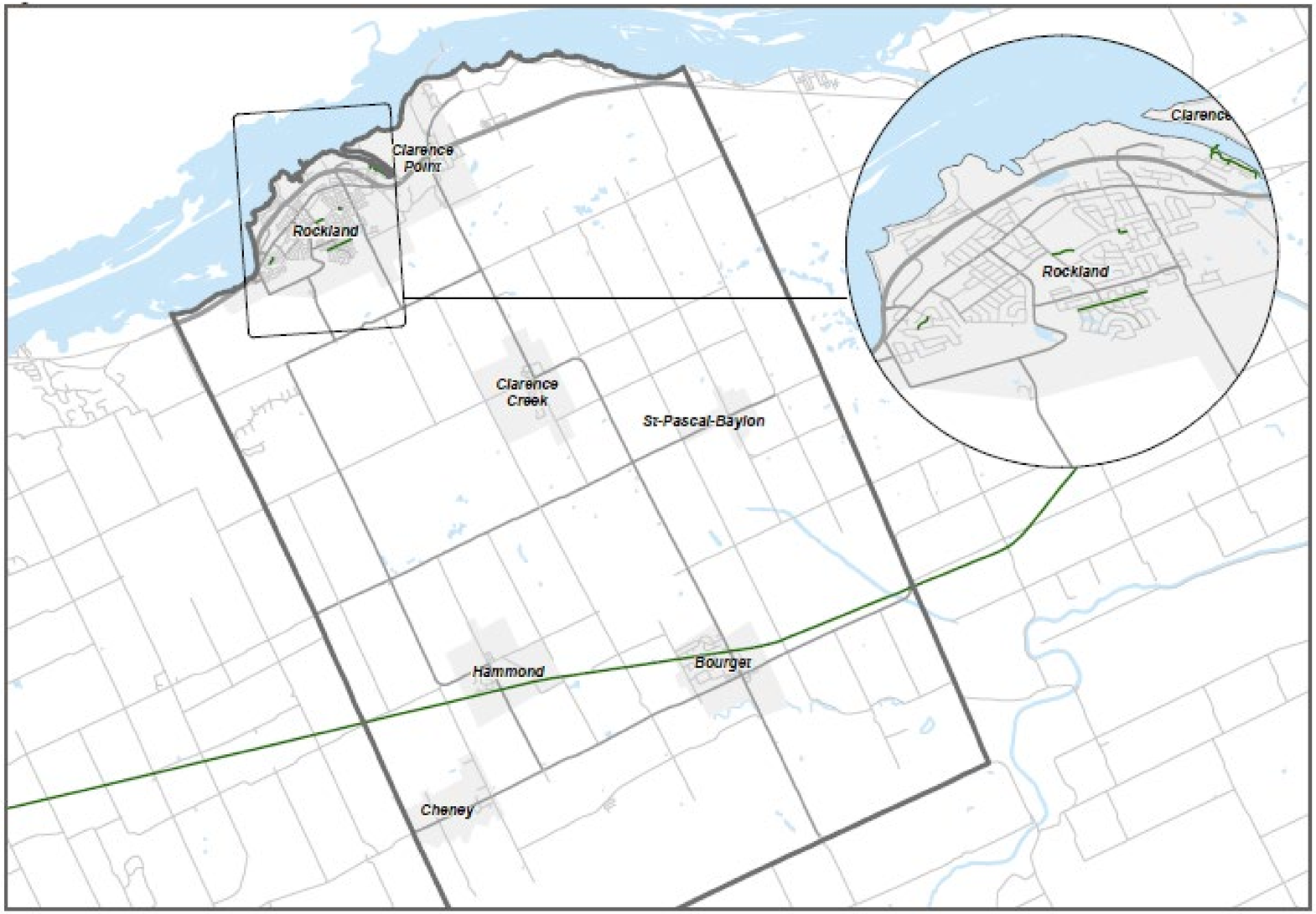
Stantec

MTMP Background & Context

The City of Clarence-Rockland completed a Multimodal Transportation Master Plan (MTMP) in 2019. The City is undertaking an update to the 2019 MTMP to revise the long-range strategic transportation infrastructure plan for Clarence-Rockland based on changes in available transportation options and resident/visitor travel patterns and behaviour since the 2019 MTMP was completed. This MTMP update will **address new challenges, support growth, and include policies to guide transportation and land use decisions**.

The 2025 MTMP Update continues to expand upon previous planning work conducted for the 2005 Strategic Transportation Plan for the Urban Area of Clarence-Rockland by re-evaluating previously planned improvements, as well as considering and responding to physical and planned changes within the City since that time.

Transportation Master Plan Study Area



The MTMP Study Area is the City of Clarence-Rockland, the largest municipality within the United Counties of Prescott Russell (UCPR) and is part of the Ottawa-Gatineau Census Metropolitan Area. As a result, a large percentage of the City's labour force commutes to the National Capital Region for employment.

Master Planning Process

This study is being undertaken in accordance with Approach #1 of the Master Planning Process, as outlined in Appendix 4 of the Municipal Class Environmental Assessment (MCEA) document (October 2000, as amended in 2007, 2011, 2015, 2023).

Phases 1 and 2 of the MCEA process will generally be addressed and will form the basis for the recommended Schedule B and C transportation infrastructure projects identified in the MTMP Update report.

Phase 1:
Problem and Opportunity

- Information Gathering
- Identify Problems and Opportunities

Phase 2:
Alternative Solutions

- Identify and Evaluate Alternative Solutions
- Develop Implementation Strategy

Ongoing Consultation

Notice of Study Commencement and Notice of Public Meeting 1 (February 2025)

Public Meeting March 5 2025

Notice of Study Completion (May 2025)

Multimodal Transportation Master Plan

Vision Statement 2019 vs 2025 Update

2019

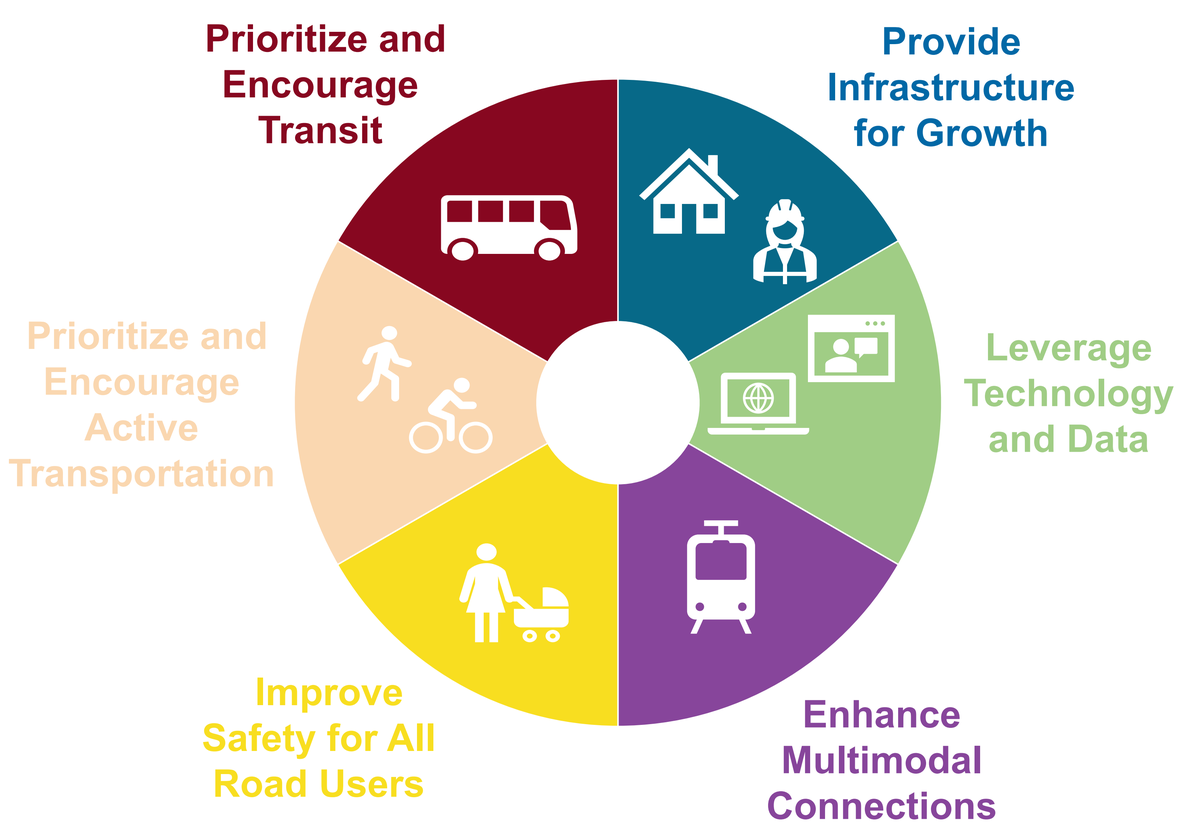
A multi-modal transportation network that integrates a mixture of infrastructure and mobility options for residents to access jobs, services, and recreation within and beyond the city safely and efficiently.

2025

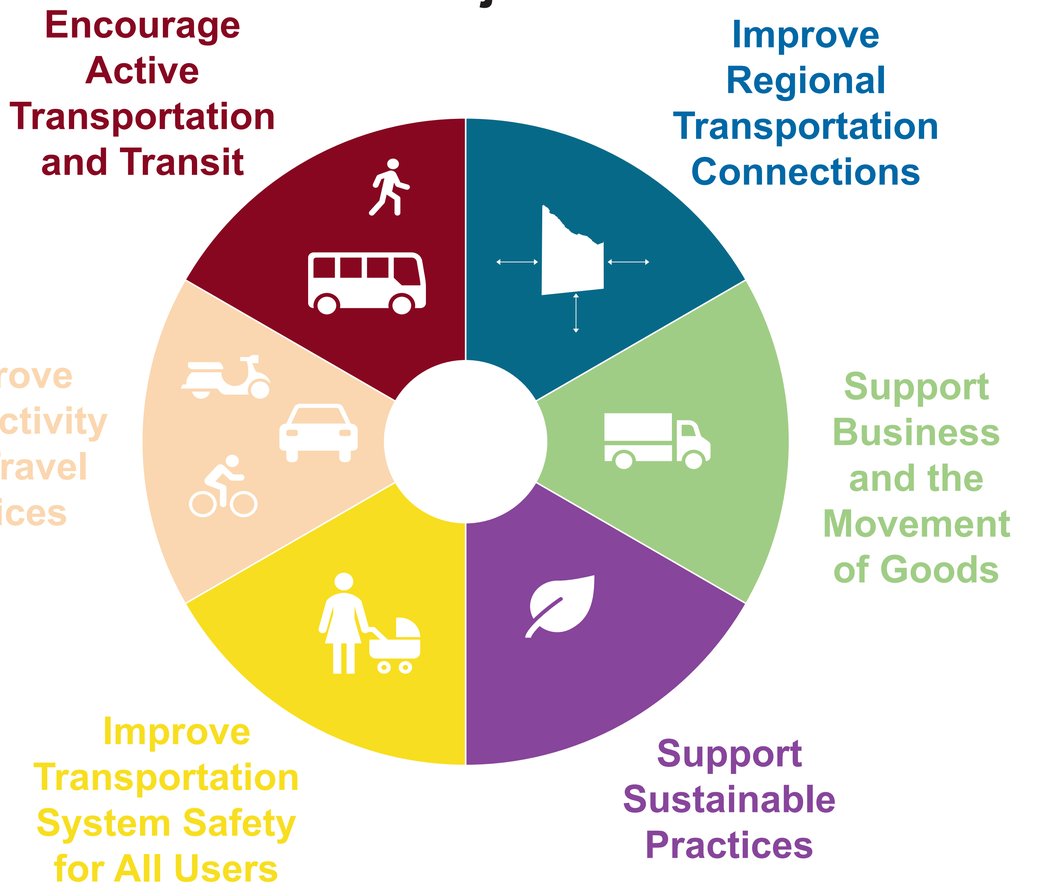
Clarence-Rockland's transportation system enhances the quality of life of all residents and visitors while supporting the needs of businesses to be successful. The transportation system will enable safe access to and between neighbourhoods and commercial areas, regardless of how someone chooses to travel. The transportation system promotes sustainable communities and supports individuals and families by meeting their social and cultural needs in an inclusive, respectful, responsible and accessible way.

MTMP Objectives 2019 vs 2025

2019 Objectives



2025 Objectives



Community Characteristics

The City of Clarence-Rockland continues its steady population growth. From 23,185 to 26,505 over the last 10 years, Clarence-Rockland is the largest municipality within the UCPR, comprising over a quarter of its total population (95,639).

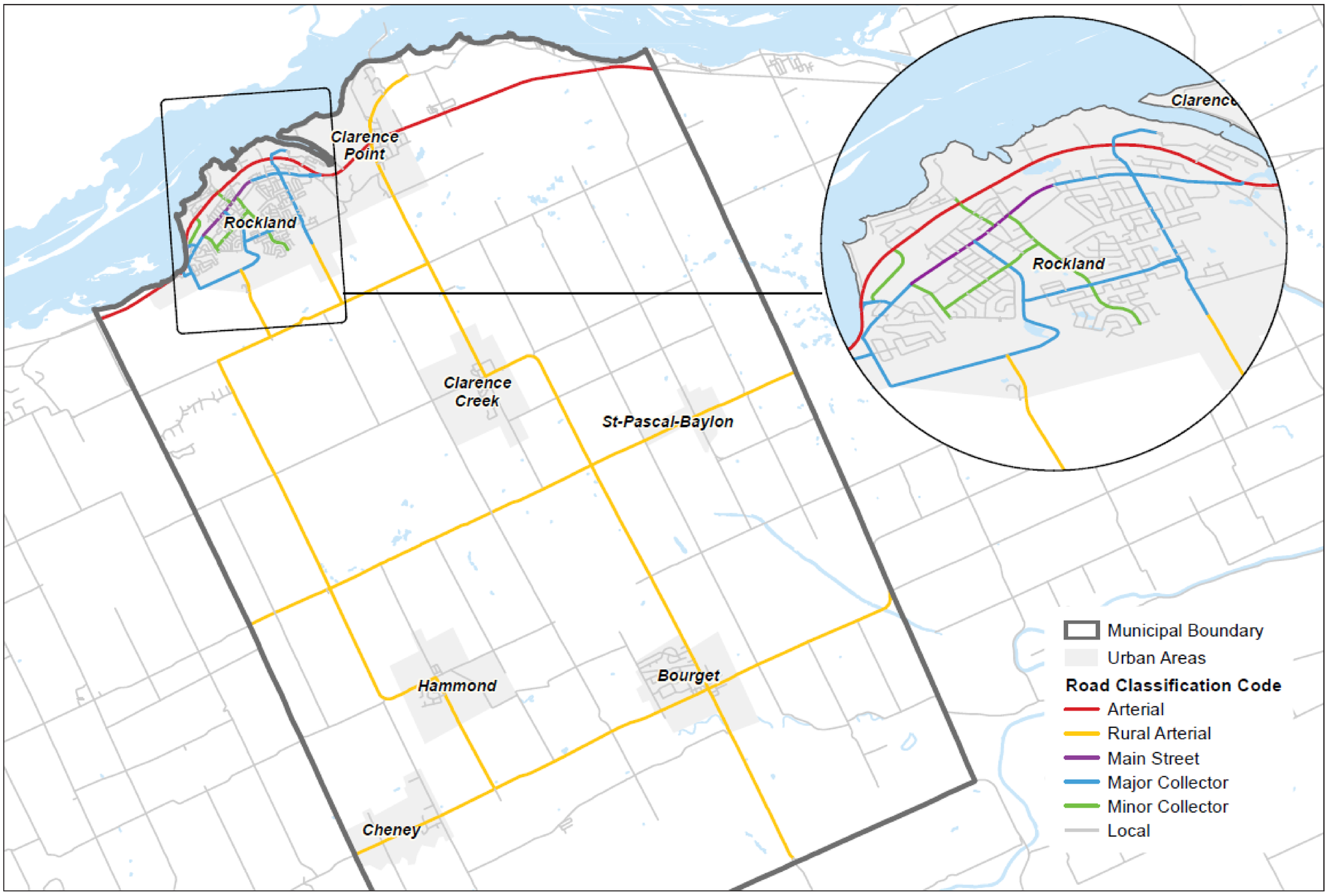
This growth is due to the fastest growing residents of ages over 65 years. Which has grown over 30% between 2016 and 2021 through in-migration and aging.

Source: City of Clarence-Rockland

Source: City of Clarence-Rockland

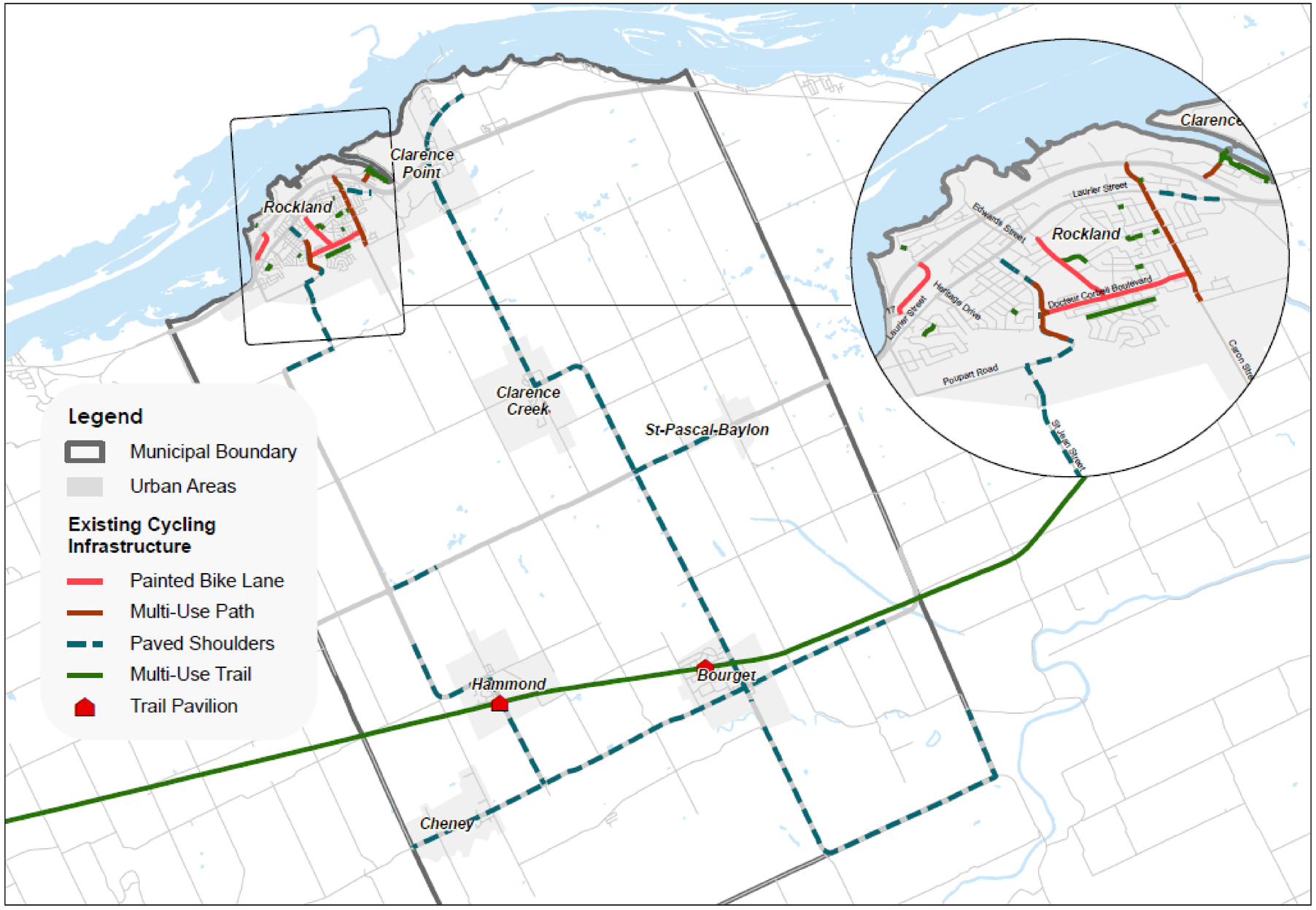
Source: City of Clarence-Rockland

Existing Road Network



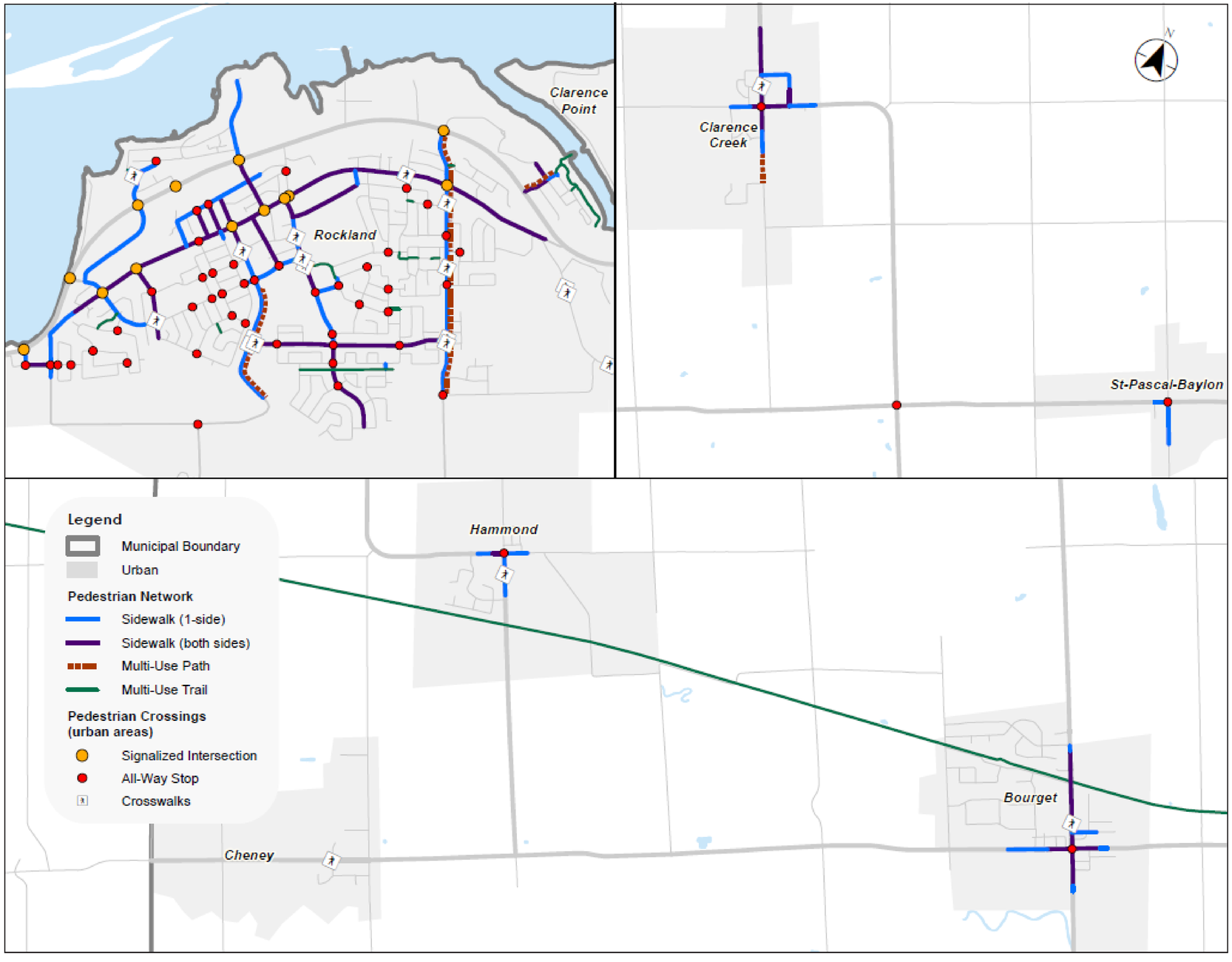
Existing Active Transportation Network

Existing Clarence-Rockland Cycling Network

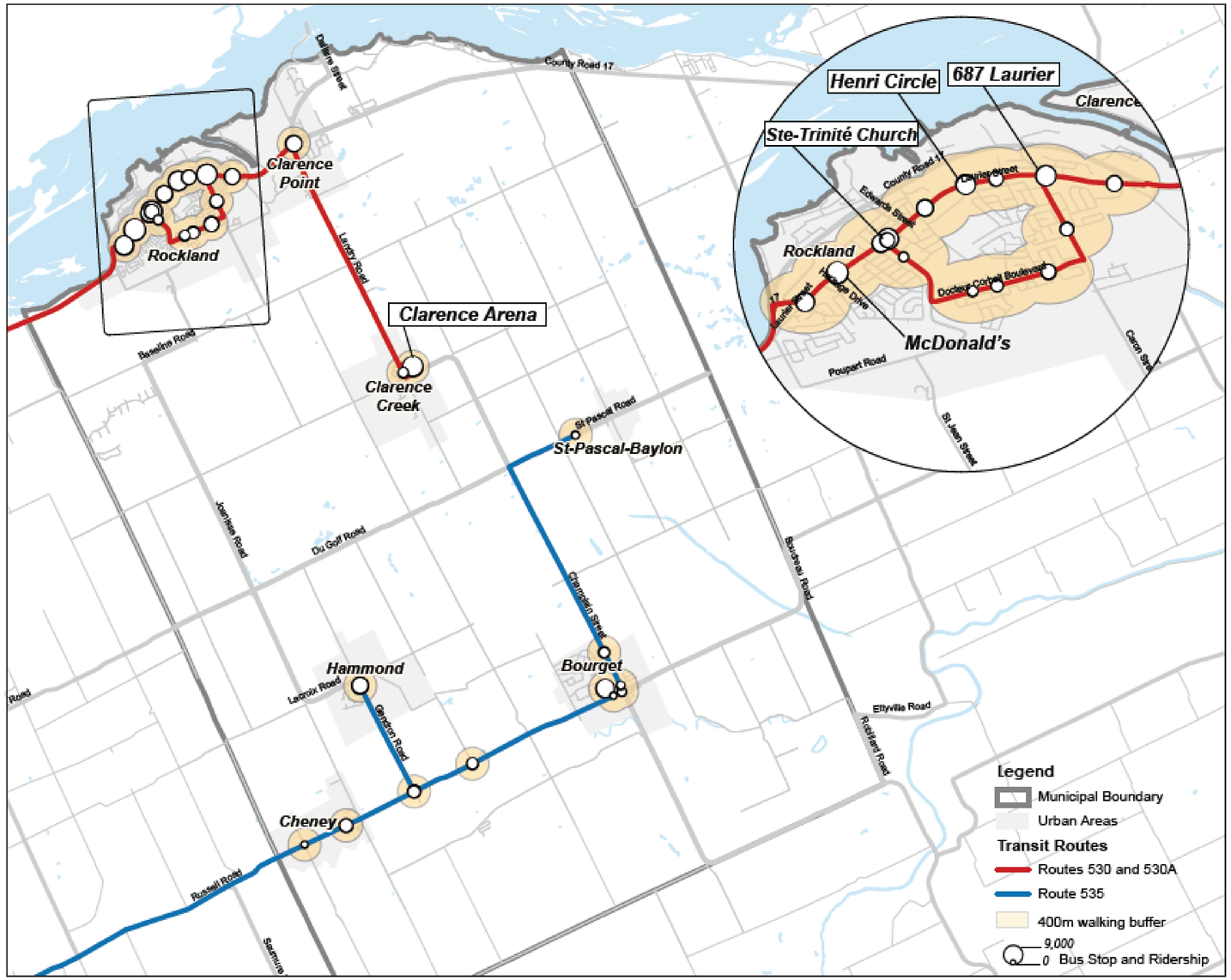


Existing Active Transportation Network

Existing Pedestrian Facilities in Settlement Areas

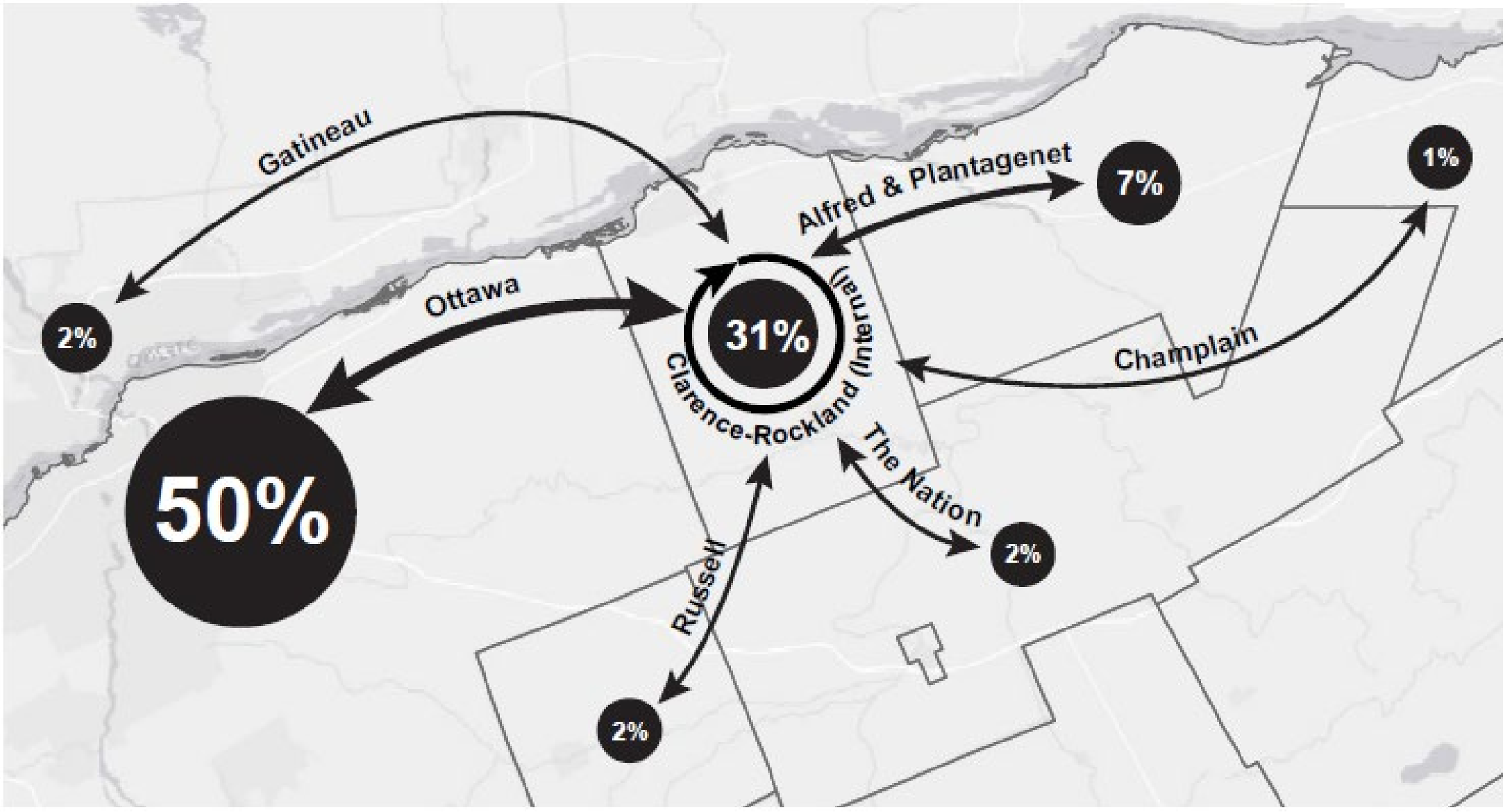


Former Transit Network



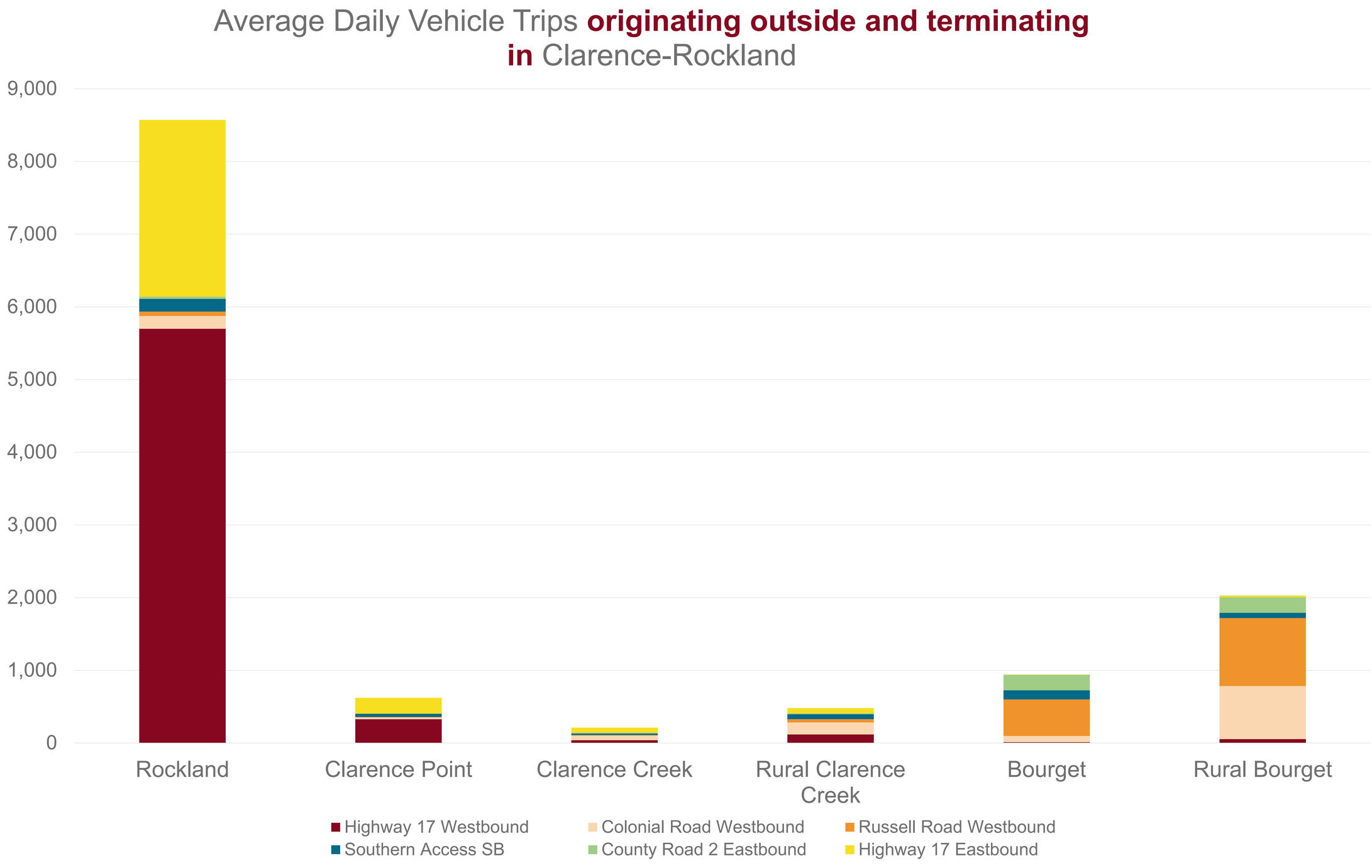
In 2003, the City of Clarence-Rockland launched a commuter transit service to Ottawa, which later expanded to two routes. Run by Leduc Bus Lines and partially subsidized by the City, the service was suspended due to pandemic restrictions and low demand. As of 2023, no return date has been set.

Existing Travel Trends: Traffic Distribution

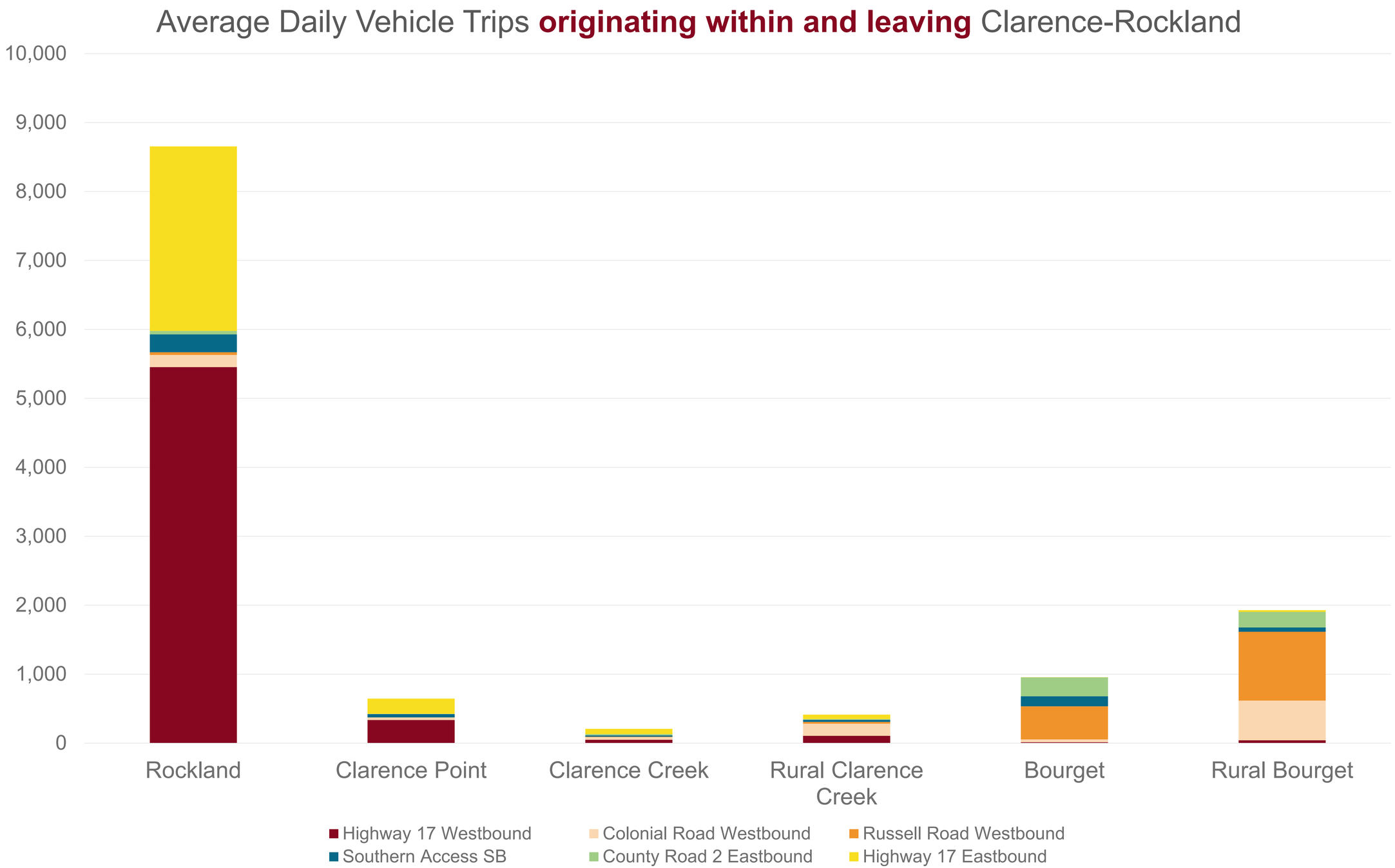


Aggregated 2021 Census Commuter Flows to and from Clarence-Rockland

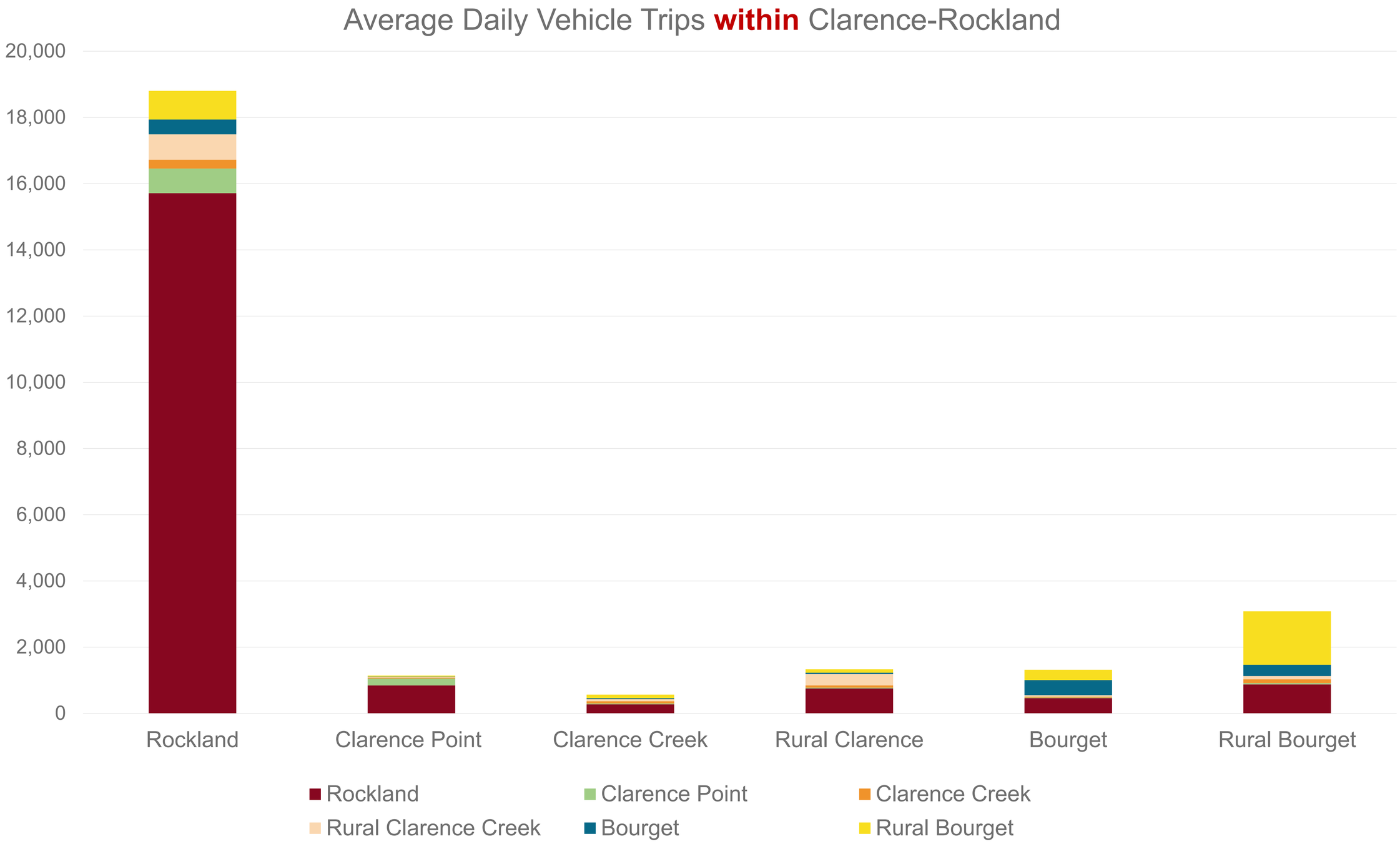
Existing Travel Trends



Existing Travel Trends



Existing Travel Trends



Needs Assessment 2019 vs 2025

The manner in which people use the transportation system has been altered by effects of the COVID-19 pandemic. This has also changed how the City can invest in new infrastructure. The plan modifications made today will remain part of the transportation system for many years and must be resilient. The needs and opportunities from the 2019 MTMP have been reassessed against the 2025 analysis of current and future conditions and recharacterized to inform updated recommendations.

2019

- There are many areas in Rockland where Sidewalks are non-existent
- Most of C-R's Residential Development is Low-Density Low-Rise
- Clarence-Rockland has limited Cycling Facilities
- Transit ridership is decreasing
- Hamlets are not well connected to jobs, services and recreation in Rockland
- There is congestion on County Road 17

2025

- Service of New Development
- Shifting Travel Patterns
- Neighborhood Internal Active Transportation Connectivity
- Safe Facilities for Longer Bicycle Trips
- Making Laurier Street Complete
- Restoration of Transit Service
- Formalization of Truck Routes/Restrictions

Challenges and Opportunities

Challenges

- Shifting travel patterns
- Lack of internal active transportation connectivity
- Disconnected cycling facilities for longer bicycle trips
- Disconnected truck routes
- The distance between destinations

Opportunities

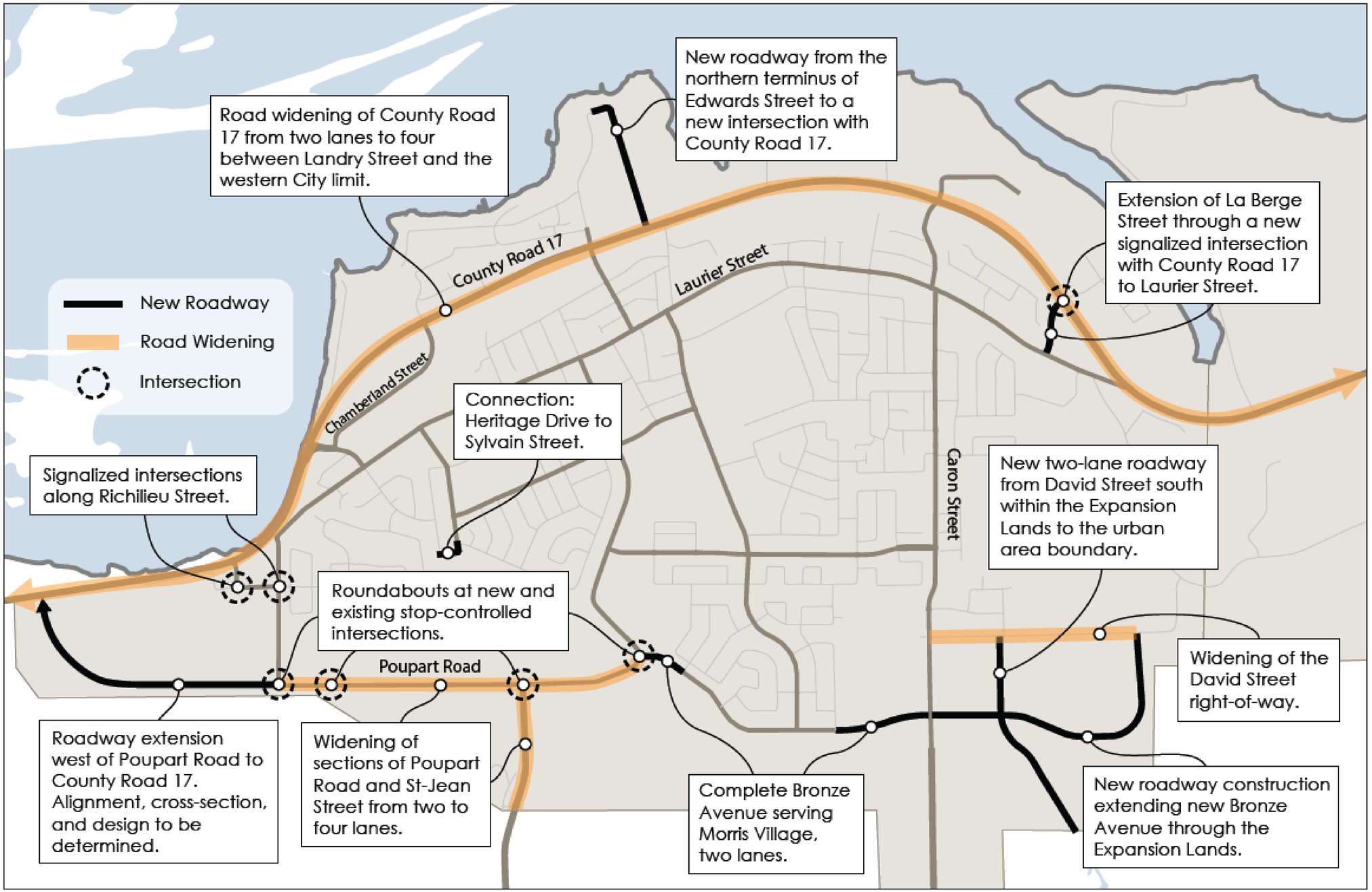
- Make Laurier Street Complete
- Restoration of bus transit service
- Formalize truck routes and truck restrictions
- Add dedicated pedestrian and bicycle infrastructure to encourage connectivity within and across neighbourhoods

Evaluation Criteria and Evaluation Process

Implementation of a large-scale multi-modal transportation plan requires an evaluation process to inform decision makers as they prioritize investments with the potential for the highest impact.

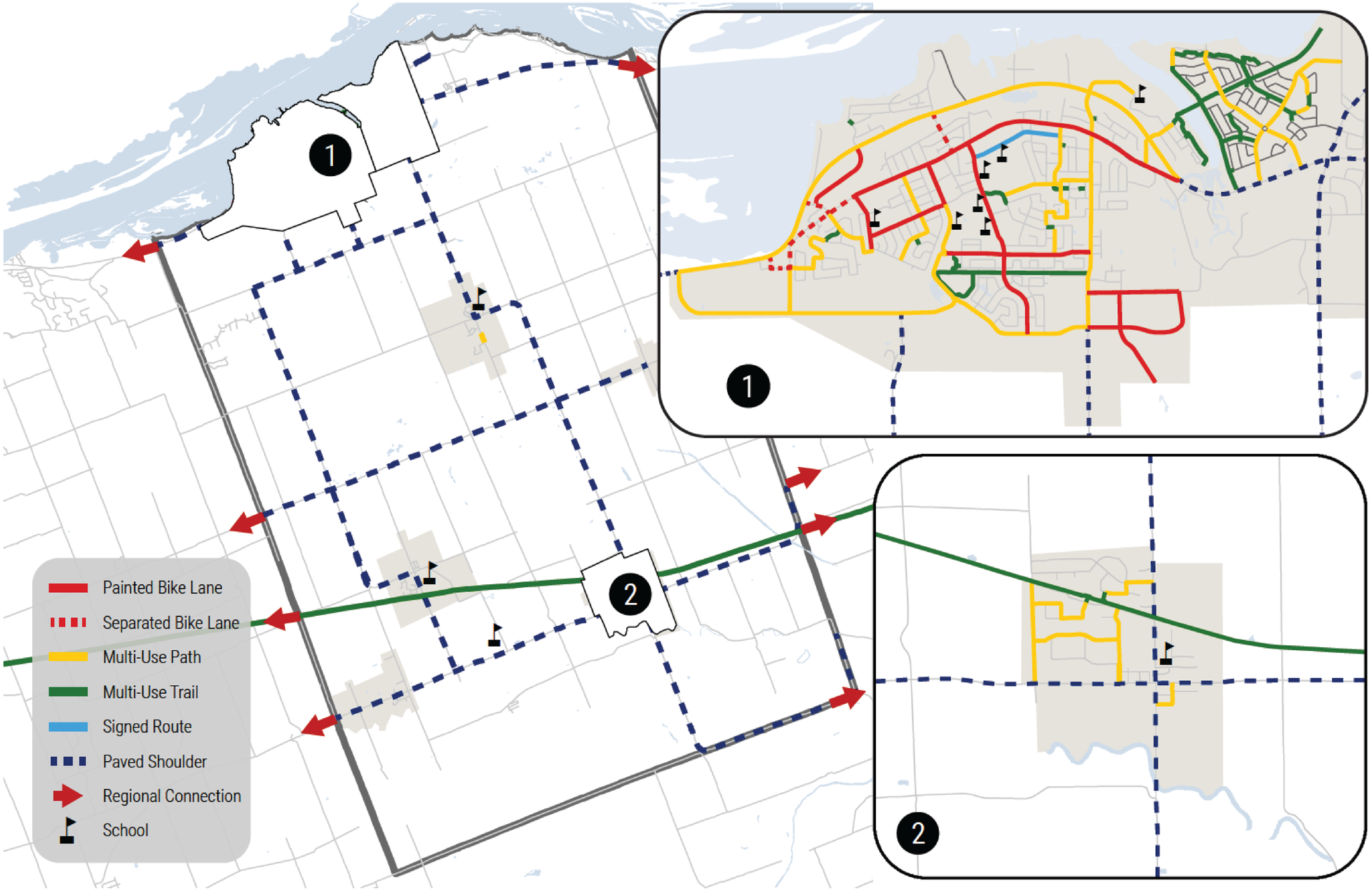
Evaluation Criteria	Rationale
Network Connectivity	Transportation corridors are most useful as part of a connected network that increases the usefulness of each facility and incorporates aspects of equity as underserved areas often feature fewer transportation options.
Development Support	Higher density new development requires complete accompanying transportation infrastructure to fully benefit new and existing residents. Supporting non-motorized transportation in these areas incrementally preserves capacity of the vehicular network.
Destination Access	Connectivity is not limited to links to other available travel facilities. A transportation network should provide direct access to places that people want to go.
User Safety	A well-designed transportation network mitigates safety risks for all users. While no recommended project is designed unsafely, certain facilities enhance safety for vulnerable road users while reducing overall conflict.
Network Resilience	A resilient transportation network is balanced and flexible. It presents multiple viable options to residents and visitors while retaining function if an emergency renders certain options temporarily inaccessible.
Constructability and Feasibility	Construction costs as well as complicating factors such as property ownership and existing conflicting infrastructure highly impact the likelihood of project implementation.

Road Network Proposed Improvements



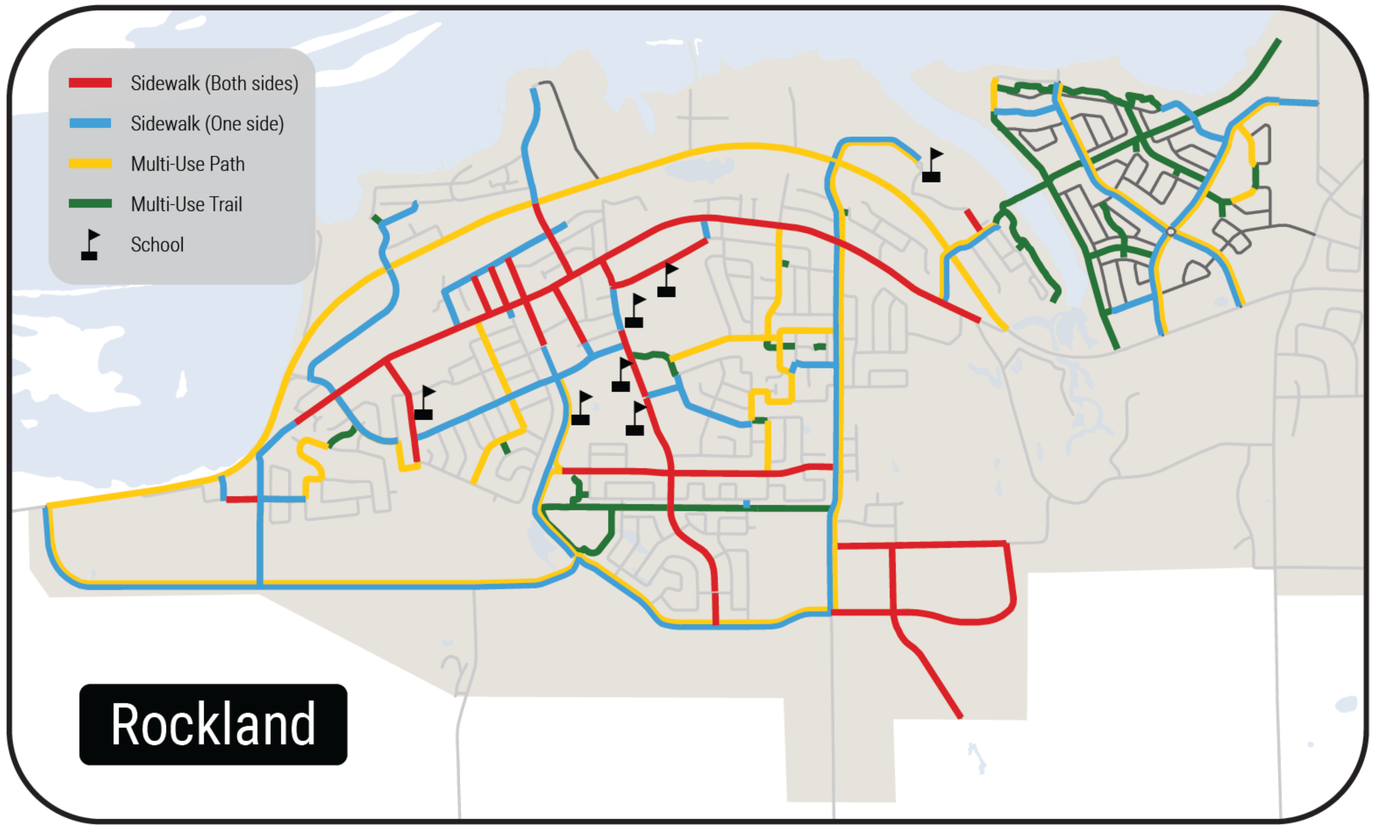
Active Transportation Proposed Improvements

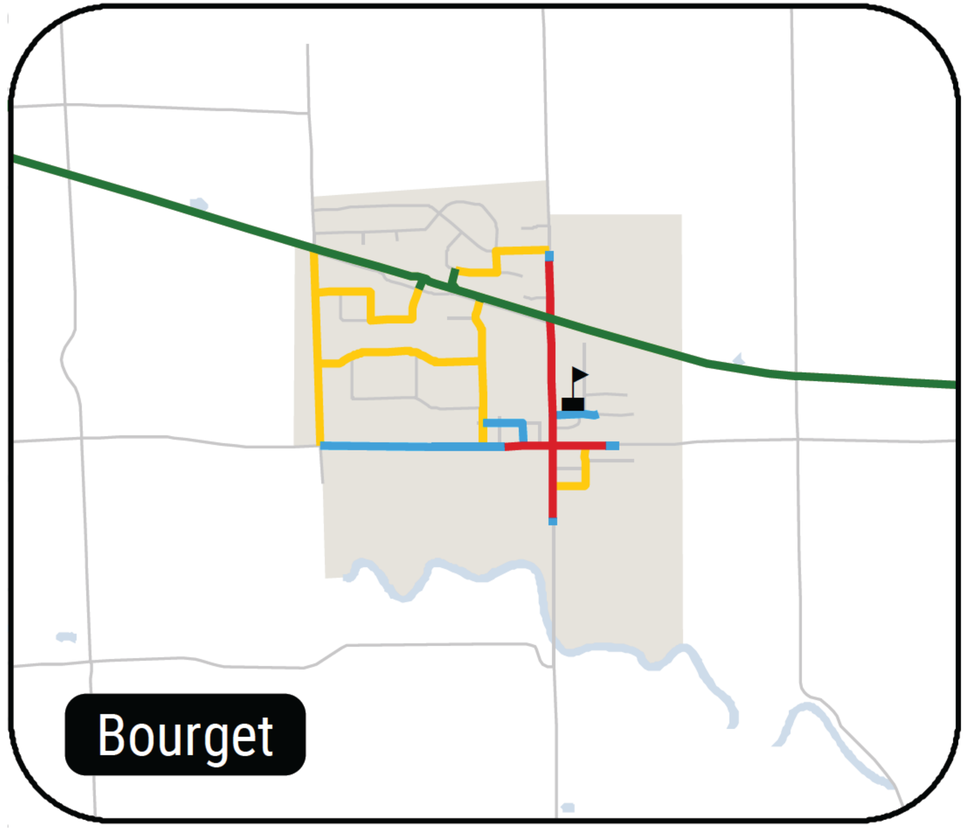
Cycling Network



Active Transportation Proposed Improvements

Pedestrian Network





Rather than sidewalks on both sides of local streets along with the inclusion of on-street bicycle lanes, the revised network makes greater use of the multi-use path within Rockland and Bourget neighborhoods.

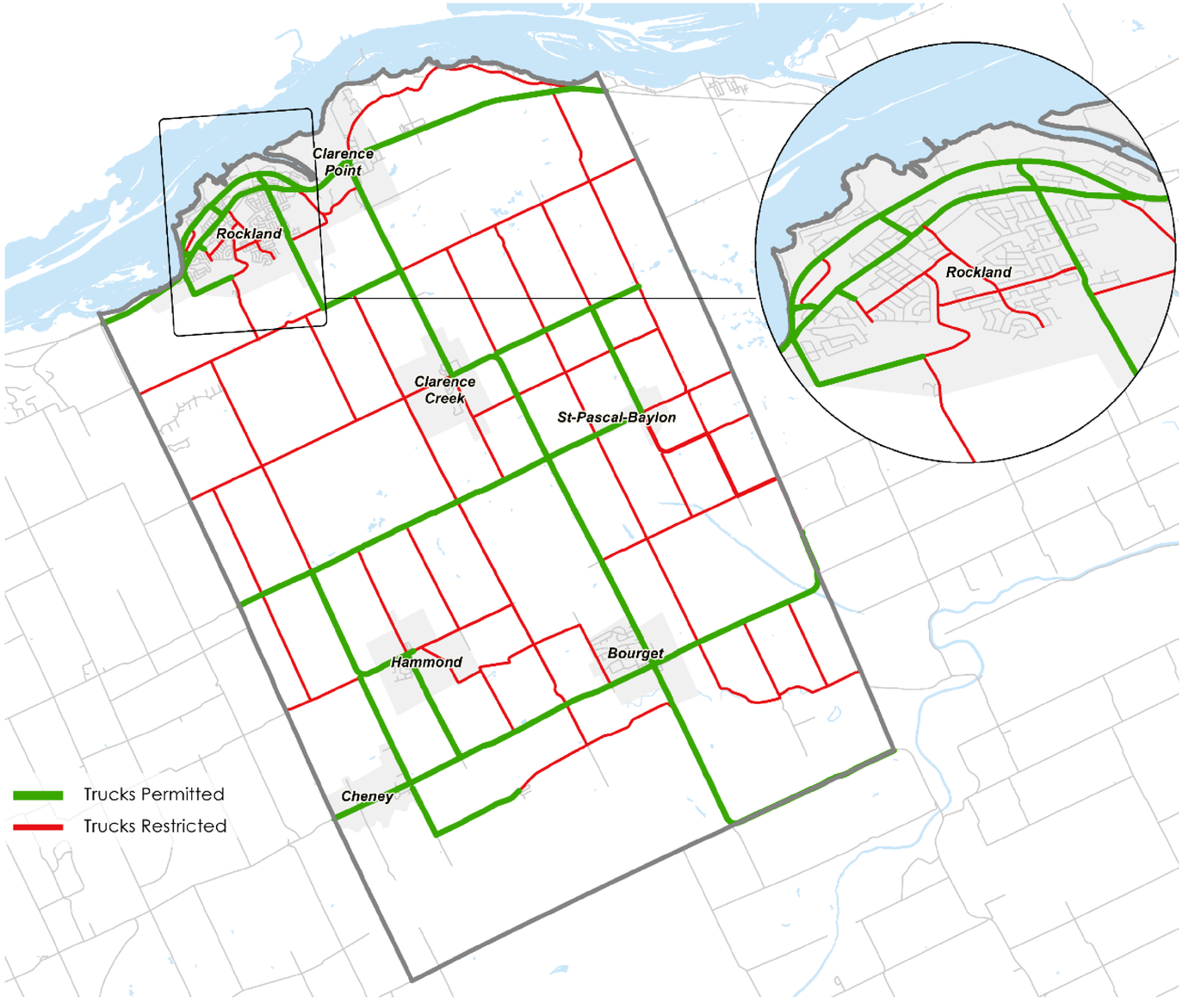
Truck Routes Proposed Improvements

Formalization of Truck Routes/Restrictions

Roadways are classified as restricted to trucks based on:

- Existing restrictions
- Maximum roadway grade
- Curves affecting lane width and visibility
- Posted speed limits
- Roadway surface and load rating (trucks not allowed on unpaved roads)

The proposed network lifts restrictions along Chemin du Lac between Duquette and Henrie Roads to create an outlet and route to Saint-Pascal-Baylon for permitted traffic on Duquette Road.



Next Steps

Phase 1
Problem and Opportunity

- Information Gathering
- Identify Problems and Opportunities

Phase 2
Alternative Solutions

- Identify and Evaluate Alternative Solutions
- Develop Implementation Strategy

Multimodal Transportation Master Plan

Ongoing Consultation

Notice of Study Commencement

Public Meeting (March 5, 2025)

Notice of Study Completion (May 2025)

Thank you for participating!

Please share your thoughts and ideas!

Email the study team:
EEMPG_MCEA@clarence-rockland.com

Complete the Comment Form

Contact a member of the study team:

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Nevena Gazibara, Lead Environmental Planner
Phone: (905) 381-3249
Email: Nevena.Gazibara@stantec.com

Please provide your feedback by March 26, 2025

Clarence-Rockland

Cité de Clarence-Rockland

Mise à jour du plan directeur de transport multimodal (PDTM)

Réunion publique

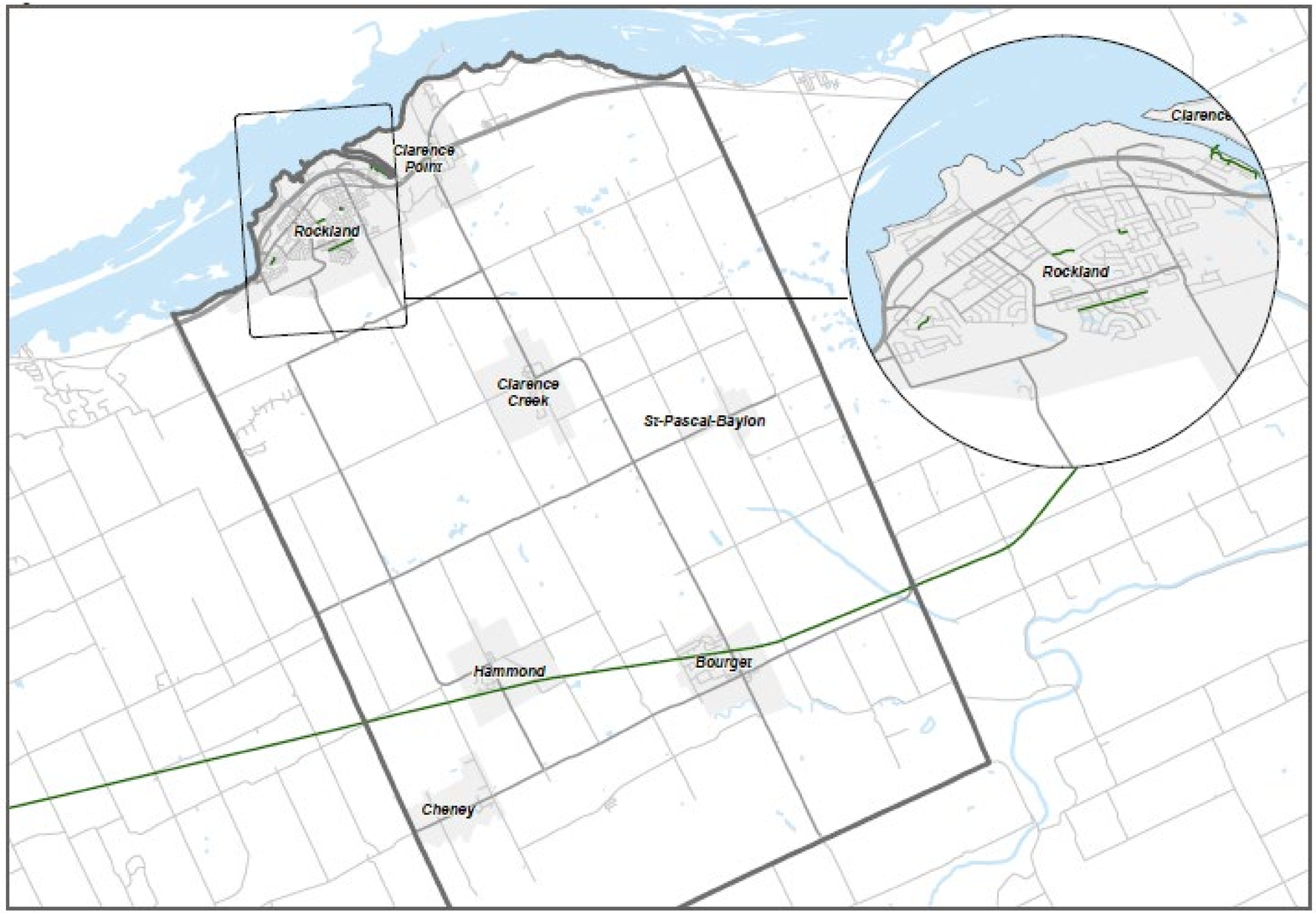
Stantec

Historique et contexte du PDTM

La Cité de Clarence-Rockland a achevé son plan directeur de transport multimodal (PDTM) en 2019. Elle entreprend la mise à jour de ce PDTM par la révision du plan stratégique d'infrastructure de transport à long terme pour Clarence-Rockland en fonction des changements dans les options de transport disponibles, ainsi que dans les habitudes de déplacement et de comportement des résidents et des visiteurs depuis 2019. Cette mise à jour permettra de **relever les nouveaux défis, de soutenir la croissance et de mettre en œuvre des politiques pour orienter les décisions en matière de transport et d'utilisation du sol**.

La mise à jour 2025 du PDMT continue d'étendre les travaux d'aménagement antérieurs menés dans le cadre du plan stratégique de transport de 2005 pour l'aire urbaine de la Cité de Clarence-Rockland en réévaluant les améliorations planifiées précédemment, de même qu'en tenant compte et en répondant aux changements physiques et planifiés au sein de la Cité depuis lors.

Zone d’étude du plan directeur de transport



La zone d’étude du PDTM est la Cité de Clarence-Rockland, la plus grande municipalité des Comtés unis de Prescott et Russell (CUPR) et fait partie de la région métropolitaine de recensement d’Ottawa-Gatineau. Un grand pourcentage de la population active de la Cité se rend donc dans la région de la capitale nationale pour le travail.

Processus de préparation des plans directeurs

Cette étude est réalisée conformément à l'approche n° 1 du processus de préparation des plans directeurs, tel qu'indiqué à l'appendice 4 du document Évaluation environnementale municipale de portée générale (EEMPG) (octobre 2000, modifié en 2007, 2011, 2015 et 2023).

Les phases 1 et 2 du processus d'EEMPG seront généralement traitées et constitueront la base des projets d'infrastructure de transport recommandés des annexes B et C établis dans le rapport de mise à jour du PDTM.

Phase 1 : Problèmes et opportunités

- Collecte d'informations
- Détermination des problèmes et des opportunités

Phase 2 : Solutions de rechange

- Détermination et évaluation de solutions de rechange
- Élaboration d'une stratégie de mise en oeuvre

Consultations continues

Avis de lancement de l'étude et de la première réunion publique (février 2025)

Réunion publique 5 mars 2025

Avis de fin de l'étude (mai 2025)

Plan directeur de transport multimodal

Mise à jour de l’énoncé de vision

2019

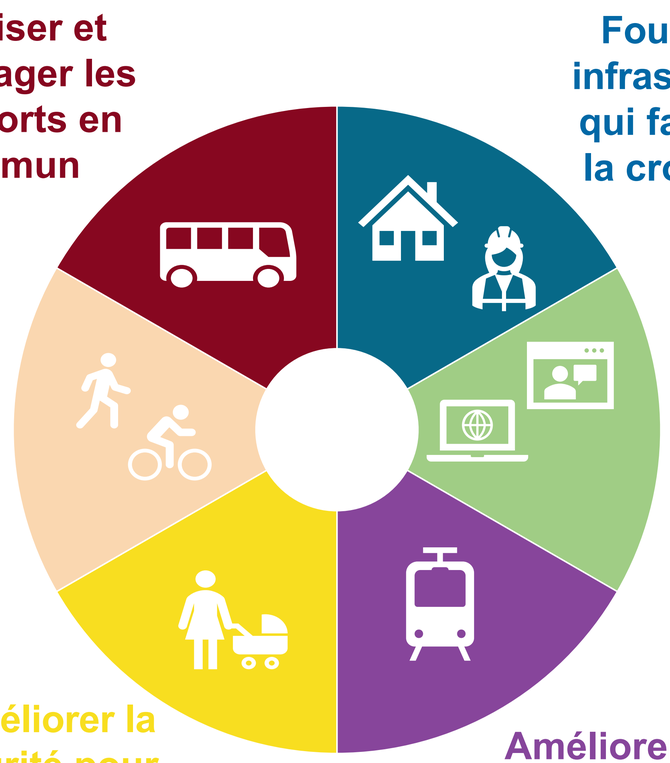
Un réseau de transport multimodal qui intègre un ensemble d’infrastructures et d’options de mobilité permettant aux habitants d’accéder aux emplois, aux services et aux loisirs à l’intérieur et à l’extérieur de la Cité de manière sécuritaire et efficace.

2025

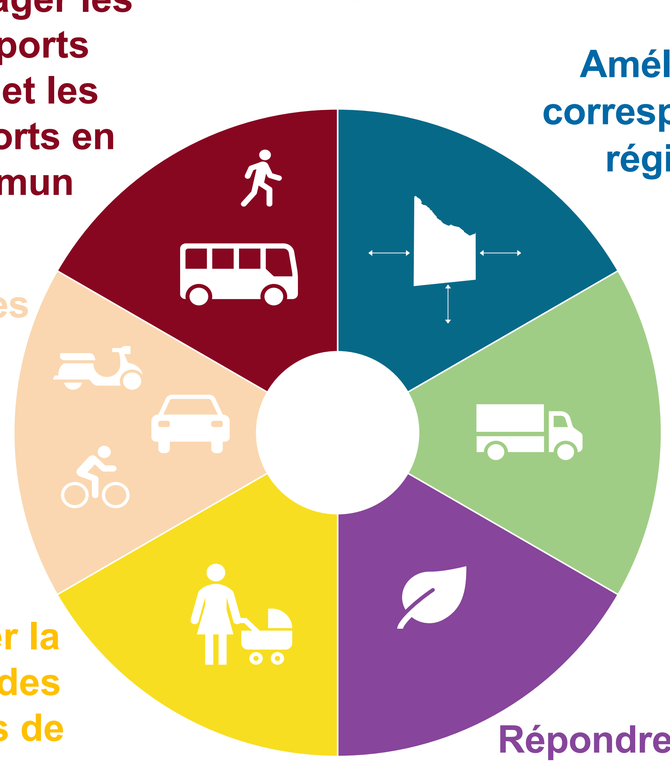
Le système de transport de Clarence-Rockland contribue à la qualité de vie de tous les résidents et visiteurs, tout en soutenant les besoins des entreprises. Il favorise la sécurité des déplacements vers et entre les quartiers résidentiels et commerciaux, quel que soit le mode de transport choisi. Il favorise également le développement durable des communautés et le soutien des individus et des familles en répondant aux besoins sociaux et culturels de manière inclusive, respectueuse, responsable et accessible.

Mise à jour des objectifs

2019 Objectives



2025 Objectives



Caractéristiques de la communauté

La Cité de Clarence-Rockland poursuit sa croissance démographique régulière. Passant de 23 185 à 26 505 habitants au cours des dix dernières années, Clarence-Rockland est la municipalité la plus populeuse des CUPR, constituant plus d'un quart de sa population totale (95 639 habitants).

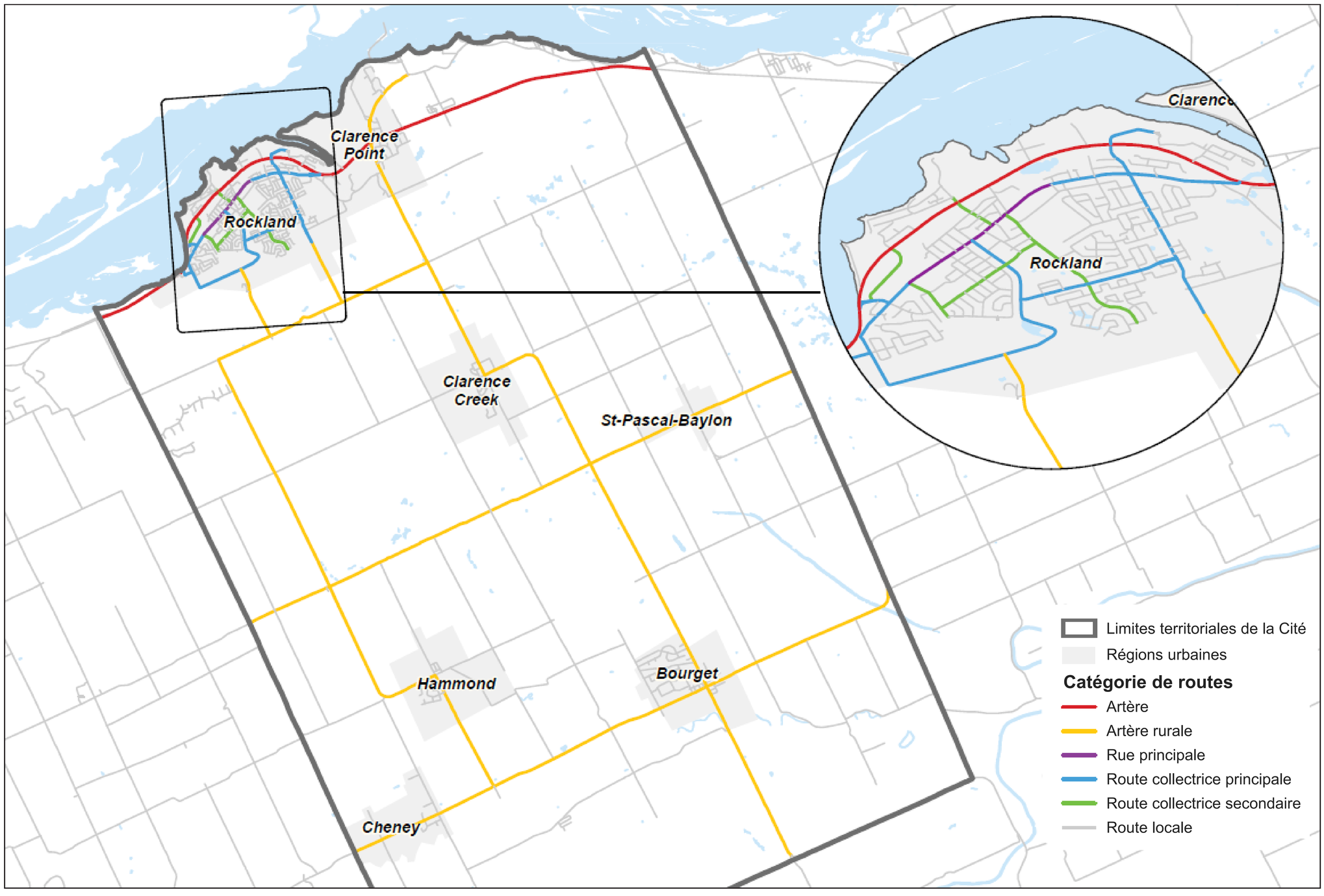
Cette croissance est due à l'augmentation la plus rapide du nombre de résidents âgés de plus de 65 ans. Cette population a augmenté de plus de 30 % entre 2016 et 2021 en raison de l'immigration et du vieillissement.

Source: La Cité de Clarence-Rockland

Source: La Cité de Clarence-Rockland

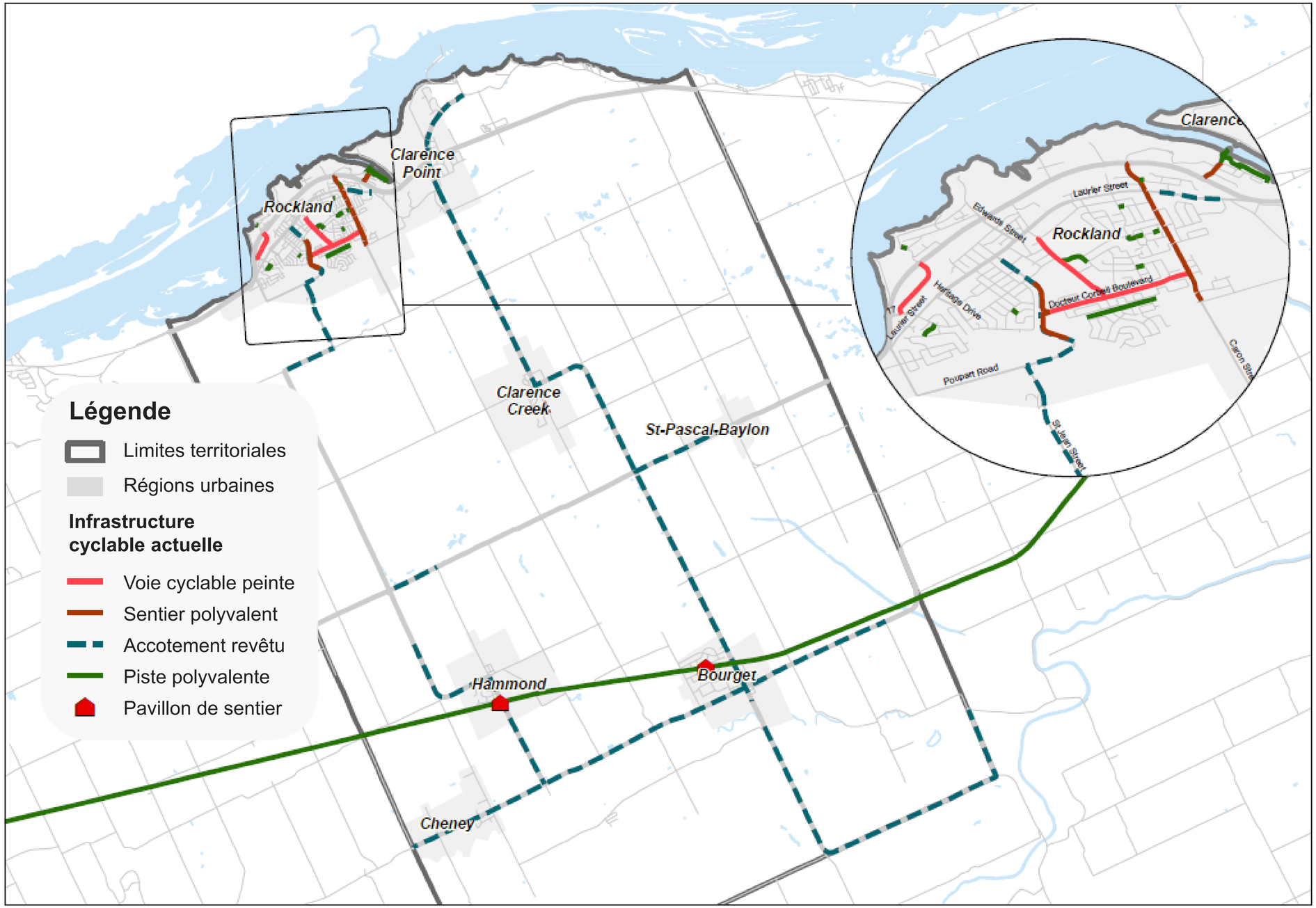
Source: La Cité de Clarence-Rockland

Réseau routier actuel



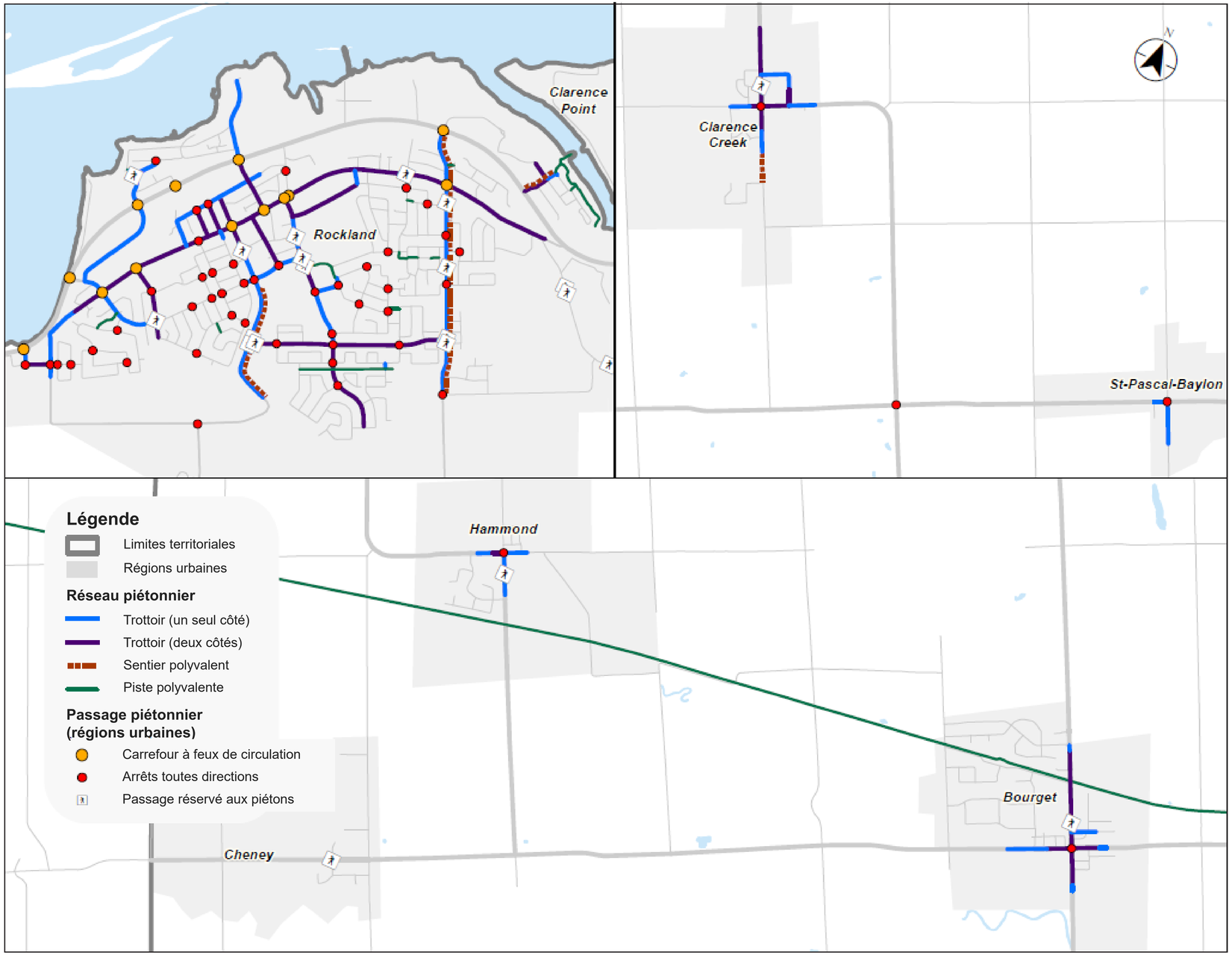
Réseau de transport actif actuel

Réseau cyclable actuel de Clarence-Rockland

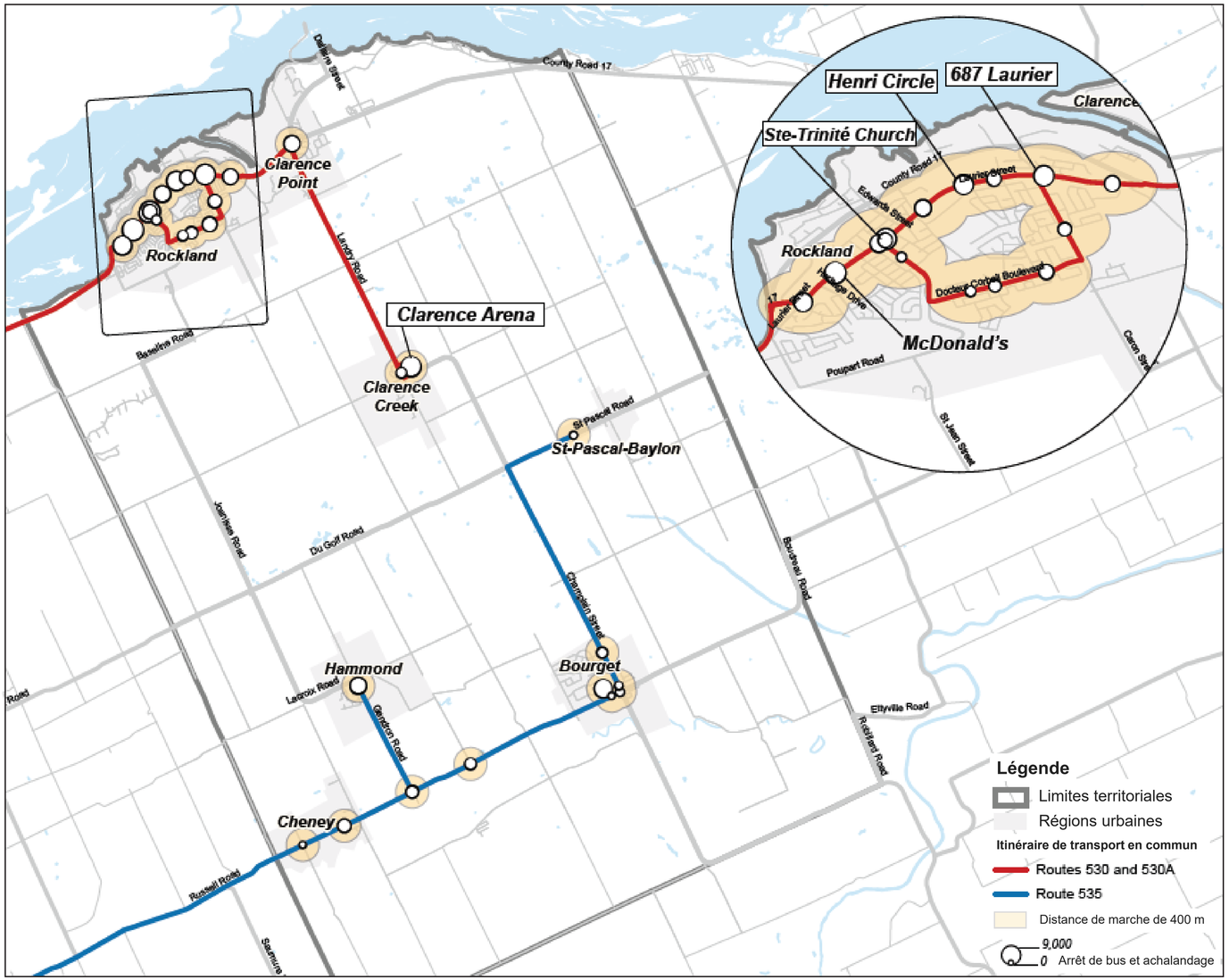


Réseau de transport actif actuel

Aménagements piétonniers actuels dans les zones de peuplement

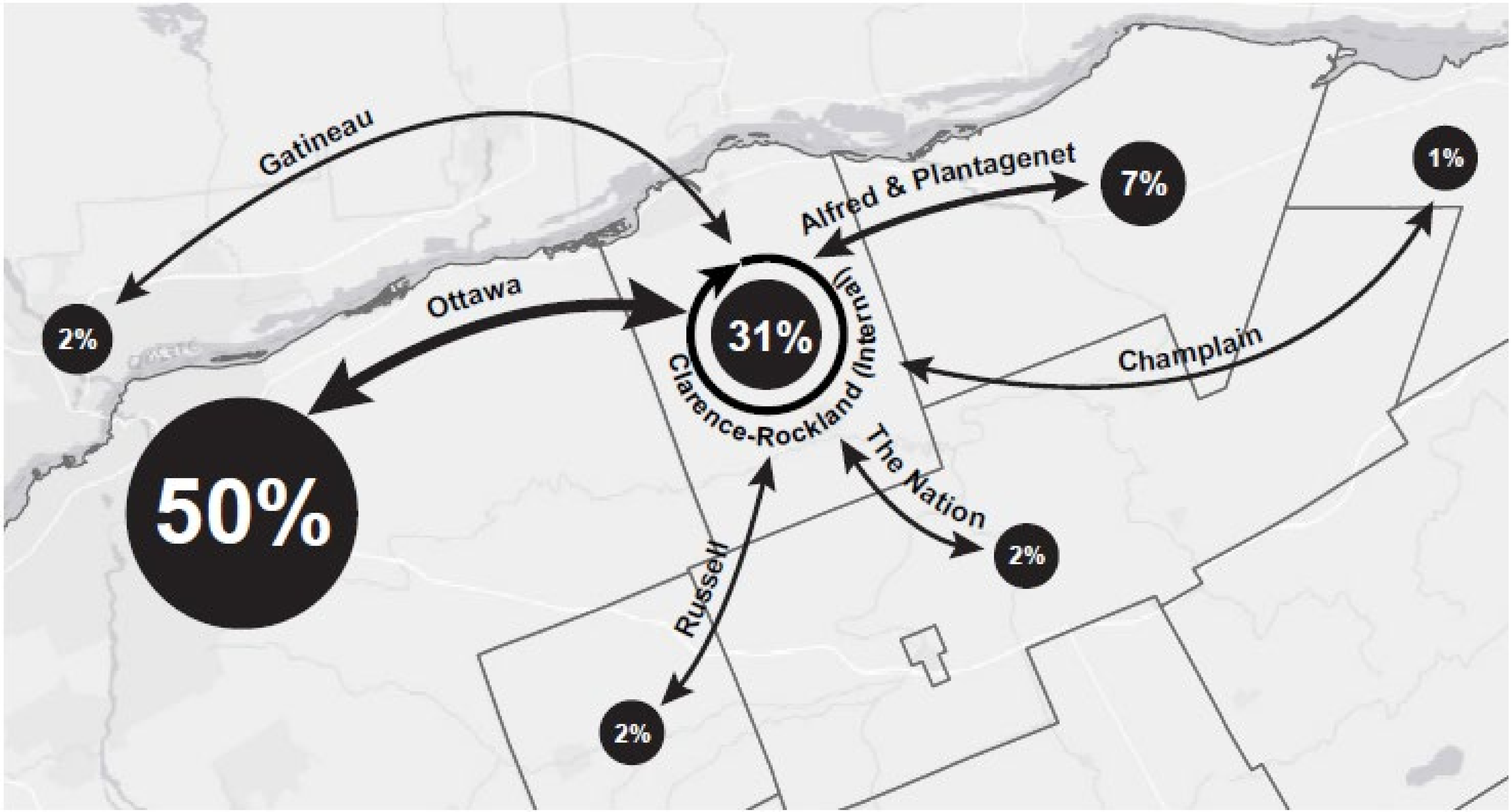


Ancien réseau de transport en commun



En 2003, la Cité de Clarence-Rockland a lancé un service de transport de banlieue vers Ottawa, qui s'est ensuite étendu à deux itinéraires. Géré par Leduc Bus Lines et partiellement subventionné par la Cité, le service a été suspendu en raison des restrictions liées à la pandémie et de la faible demande. En 2023, aucune date de retour n'avait encore été établie.

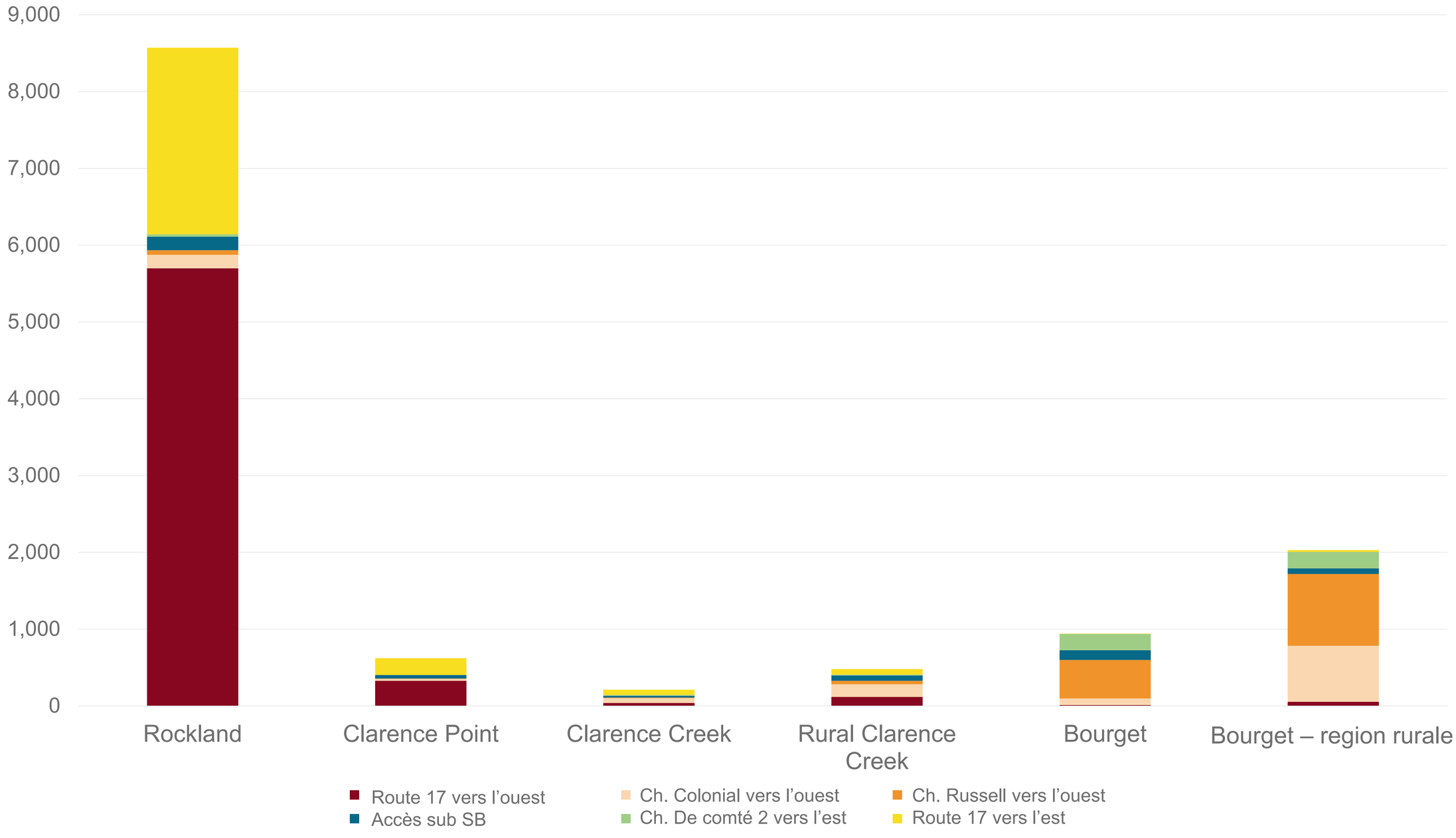
Habitudes de déplacement actuelles : répartition des déplacements



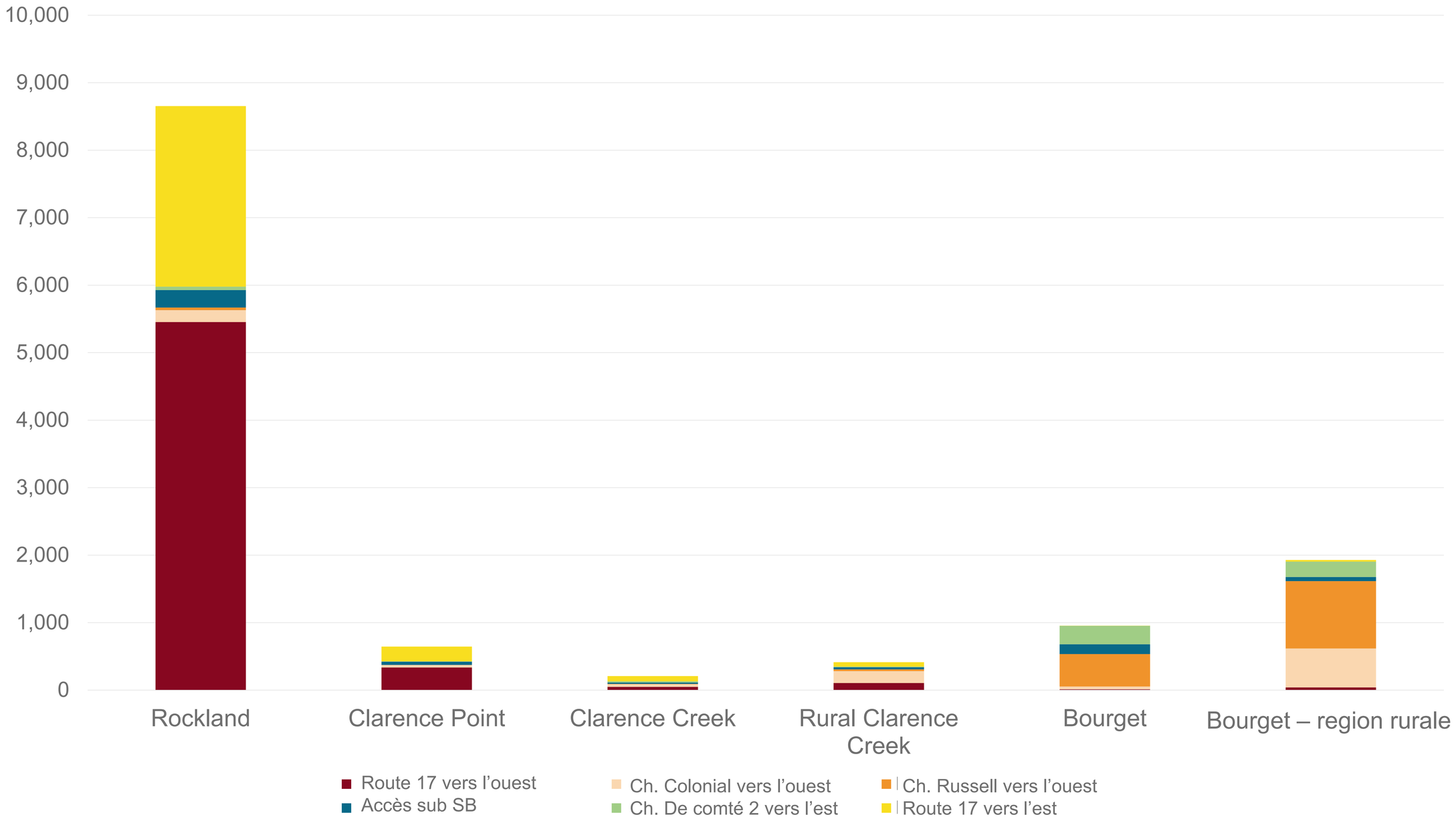
Navettage vers et depuis la Cité de Clarence-Rockland (données agrégées, Statistique Canada, *Recensement de la population 2021*

Habitudes de déplacement actuelles

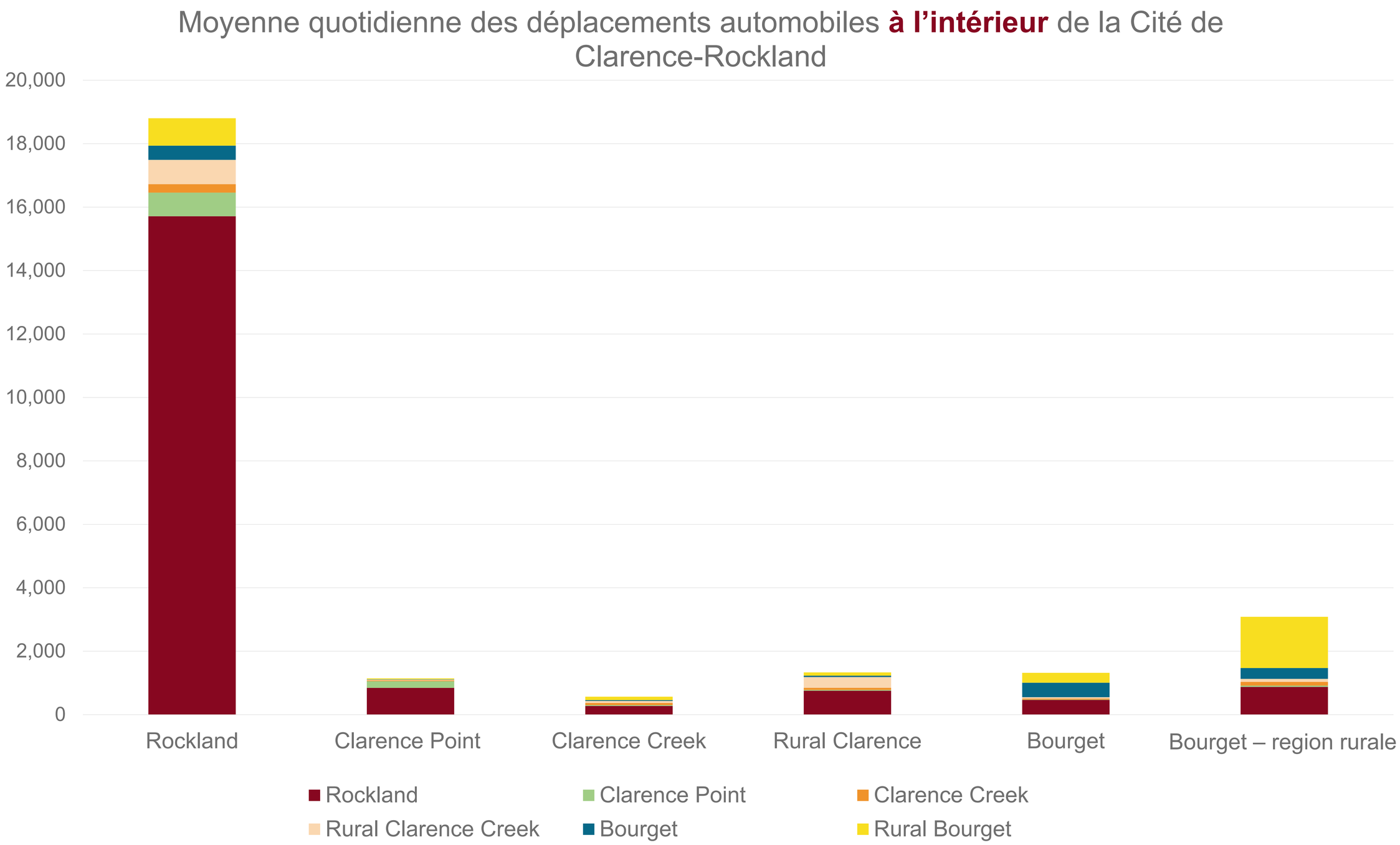
Moyenne quotidienne des déplacements automobiles **en provenance de l'extérieur et se terminant dans** la Cité de Clarence-Rockland



Habitudes de déplacement actuelles



Habitudes de déplacement actuelles : déplacements automobiles dans la Cité et quittant la Cité



Évaluation des besoins (2019 vs 2025)

Les choix de la population en matière de transport ont changé depuis la pandémie de COVID-19. Cela a entraîné des changements dans les investissements de la Cité pour les nouvelles infrastructures. Les modifications qui sont aujourd'hui apportées au plan feront partie du système de transport pendant de nombreuses années et doivent donc être durables. Les besoins et les opportunités du PDTM 2019 ont été réévalués par rapport à l'analyse des conditions actuelles et futures de 2024, et redéfinis afin d'étayer les mises à jour recommandées.

2019

- Plusieurs rues de la Cité sont dépourvues de trottoirs
- L'essentiel de l'aménagement résidentiel de la Cité est de faible densité et de faible hauteur
- Il y a un manque d'aménagements cyclables dans la Cité
- L'achalandage des transports en commun est en baisse
- Les hameaux ne sont pas bien reliés aux emplois, aux services et aux loisirs de la Cité
- Le chemin de Comté 17 est congestionné

2025

- Services dans les nouveaux développements
- Changements dans les habitudes de déplacement
- Correspondances dans les transports actifs intérieurs (de quartier)
- Aménagements sécuritaires pour les longs trajets à vélo
- Rue complète rue Laurier
- Rétablissement du service de transport en commun
- Officialisation des itinéraires/ restrictions pour les camions

Défis et opportunités

Défis

- Changements dans les habitudes de déplacement
- Manque de correspondances dans les transports actifs intérieurs
- Aménagements cyclables sectionnés pour les longs trajets à vélo
- Itinéraires sectionnés pour les camions
- Distance entre les destinations

Opportunités

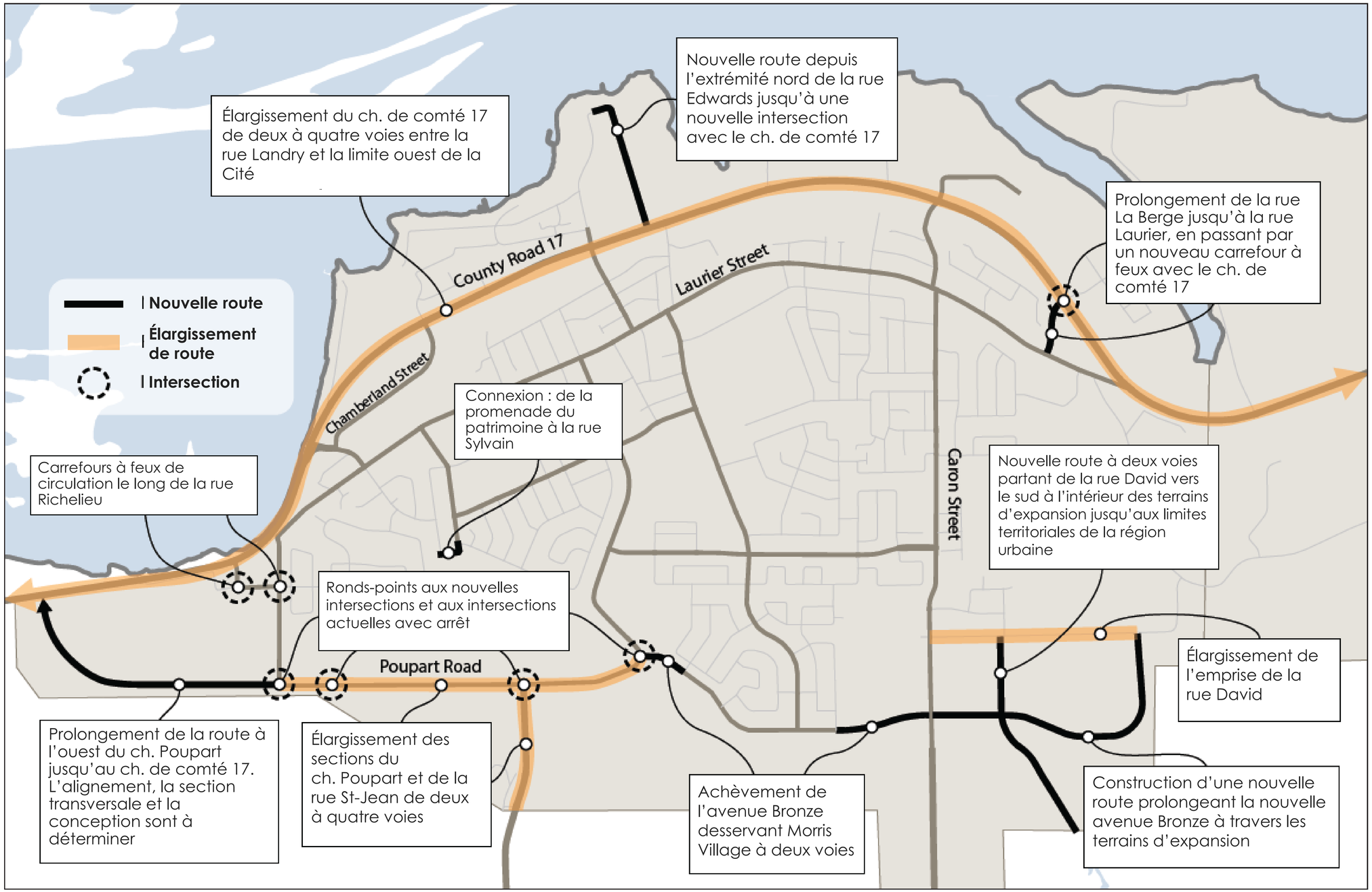
- Rue complète rue Laurier
- Rétablir le service de transport en commun
- Officialiser les itinéraires et les restrictions pour les camions
- Ajouter des infrastructures consacrées aux piétons et aux cyclistes qui favorisent les déplacements à l’intérieur des quartiers et entre les quartiers

Critères et processus d’évaluation

La mise en œuvre d’un plan de transport multimodal à grande échelle nécessite un processus d’évaluation pour aider les décideurs dans la hiérarchisation des investissements susceptibles d’avoir le plus d’impact.

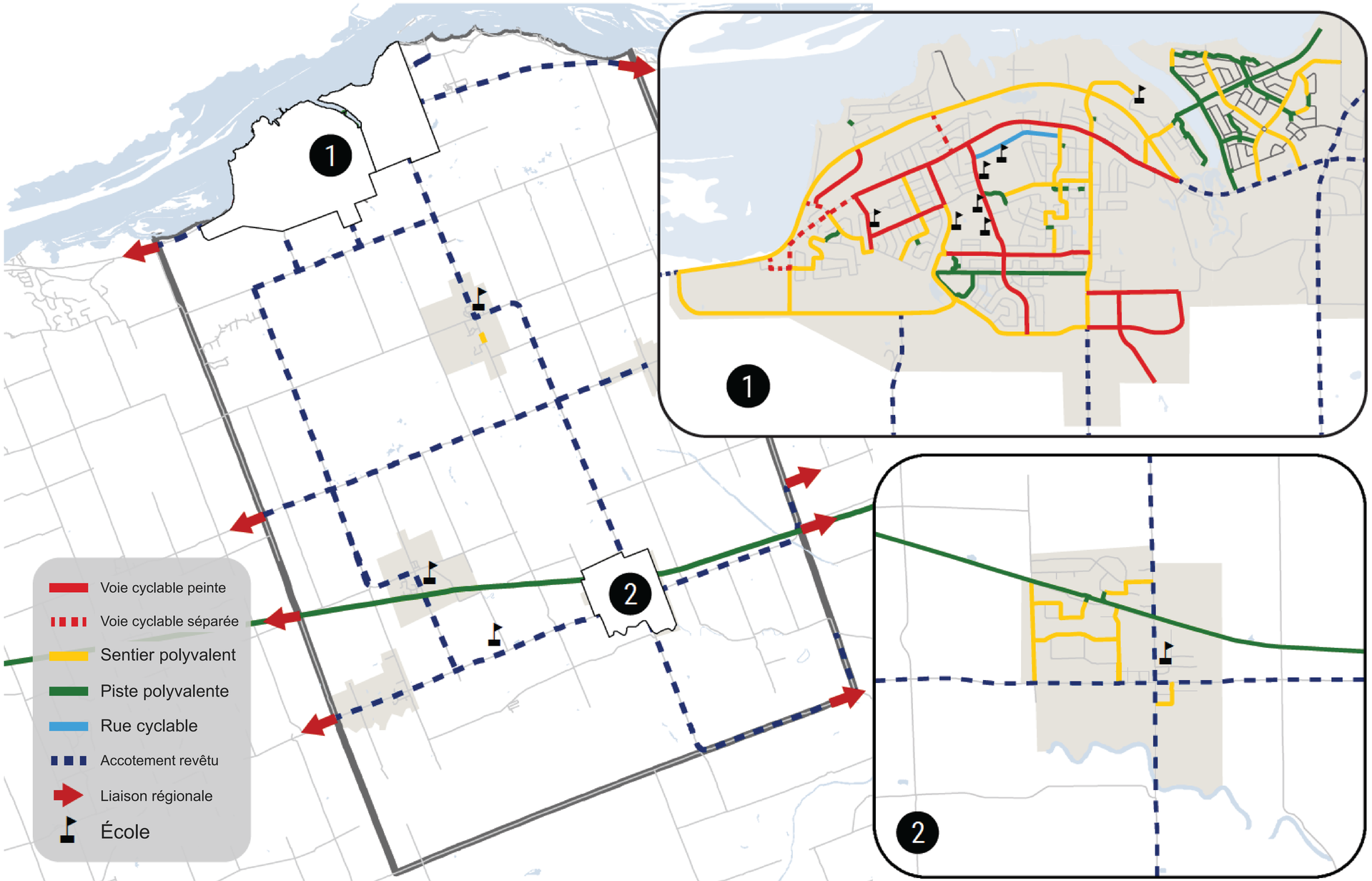
Critère d’évaluation	Justification
Connectivité du réseau	Les couloirs de transport sont d’autant plus utiles qu’ils font partie d’un réseau connecté qui accroît l’utilité de chaque installation et intègre des aspects d’équité, car les zones mal desservies disposent souvent de moins d’options de transport.
Soutien au développement	Les nouveaux aménagements plus denses nécessitent une infrastructure de transport complète pour profiter pleinement aux nouveaux résidents et aux résidents actuels. Le soutien aux transports non motorisés dans ces zones permet de préserver progressivement la capacité du réseau routier.
Accès aux destinations	La connectivité ne se limite pas aux liens avec d’autres moyens de transport disponibles. Un réseau de transport doit fournir un accès direct aux endroits où les gens veulent se rendre.
Sécurité des utilisateurs	Un réseau de transport bien conçu atténue les risques pour la sécurité de tous ses utilisateurs. Bien que la conception des projets recommandés soit toujours sécuritaire, certains aménagements optimisent la sécurité des utilisateurs vulnérables de la route tout en réduisant le nombre total de conflits.
Résilience du réseau	Un réseau de transport résilient est équilibré et flexible. Il offre de multiples options viables aux résidents et aux visiteurs, tout en restant fonctionnel si une situation d’urgence rend certaines options temporairement inaccessibles.
Constructibilité et faisabilité	Les coûts de construction, ainsi que des facteurs de complication tels que la propriété et les infrastructures conflictuelles actuelles ont un impact considérable sur la probabilité de mise en œuvre du projet.

Améliorations proposées au réseau



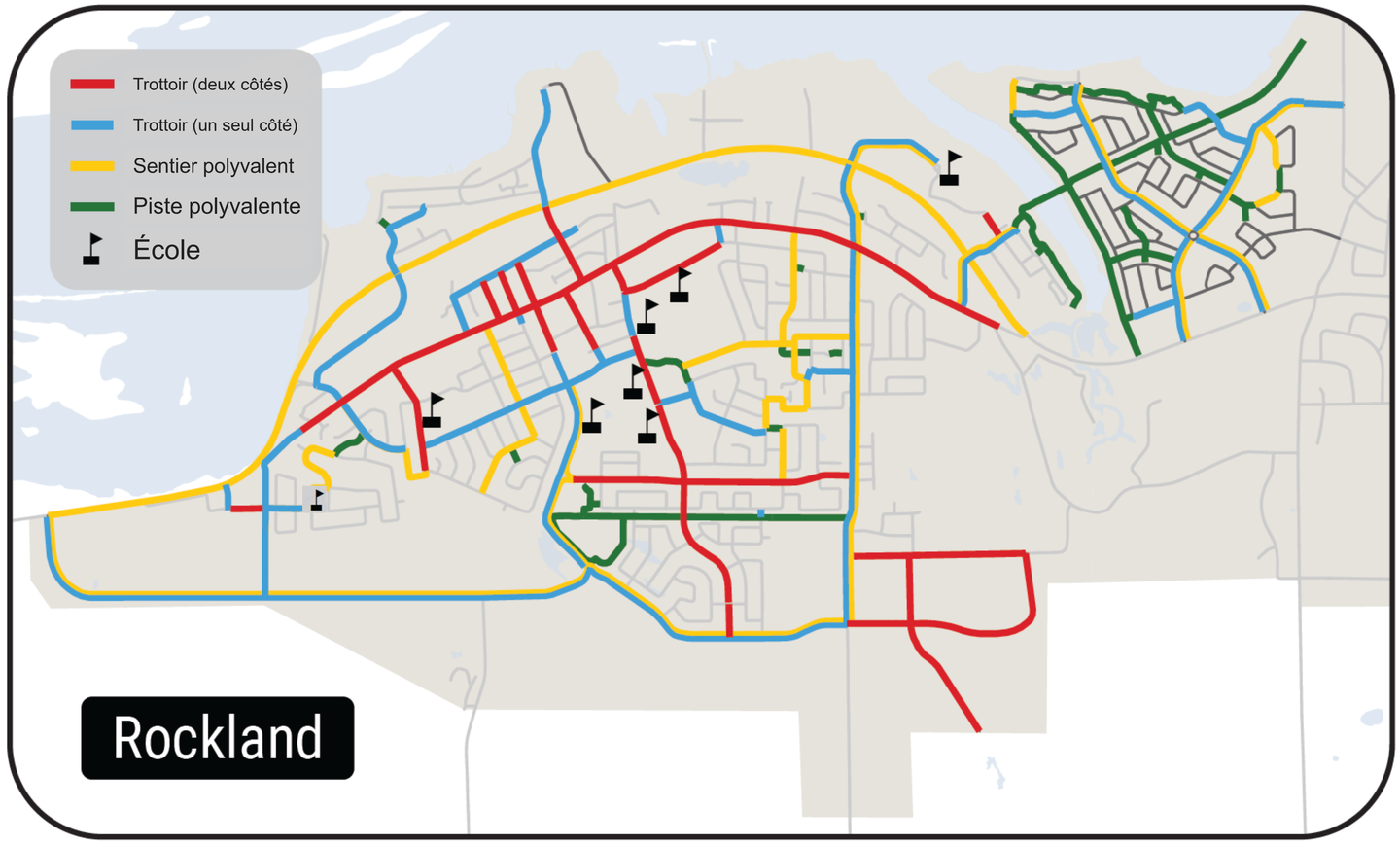
Améliorations proposées pour le transport actif

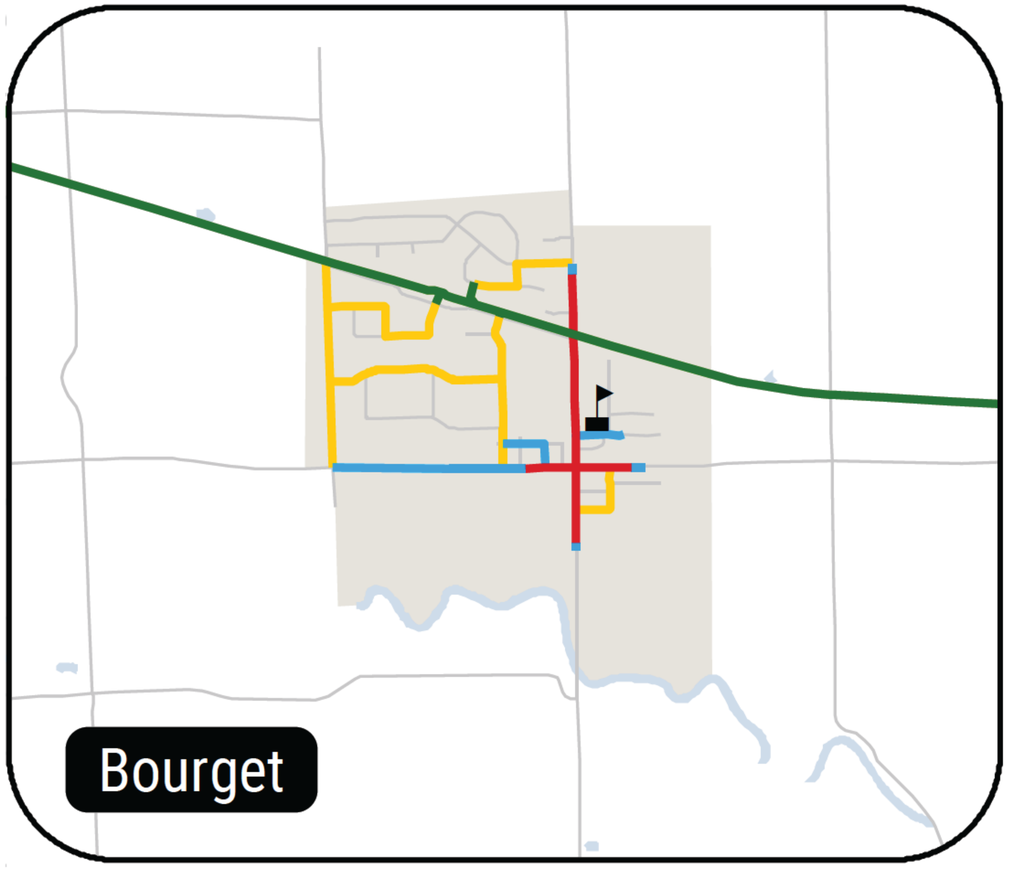
Réseau cyclable



Améliorations proposées pour le transport actif

Réseau piétonnier





Plutôt que des trottoirs de part et d'autre des rues locales et l'ajout de pistes cyclables sur rue, le réseau révisé mise davantage sur les sentiers polyvalents dans les quartiers Rockland et Bourget.

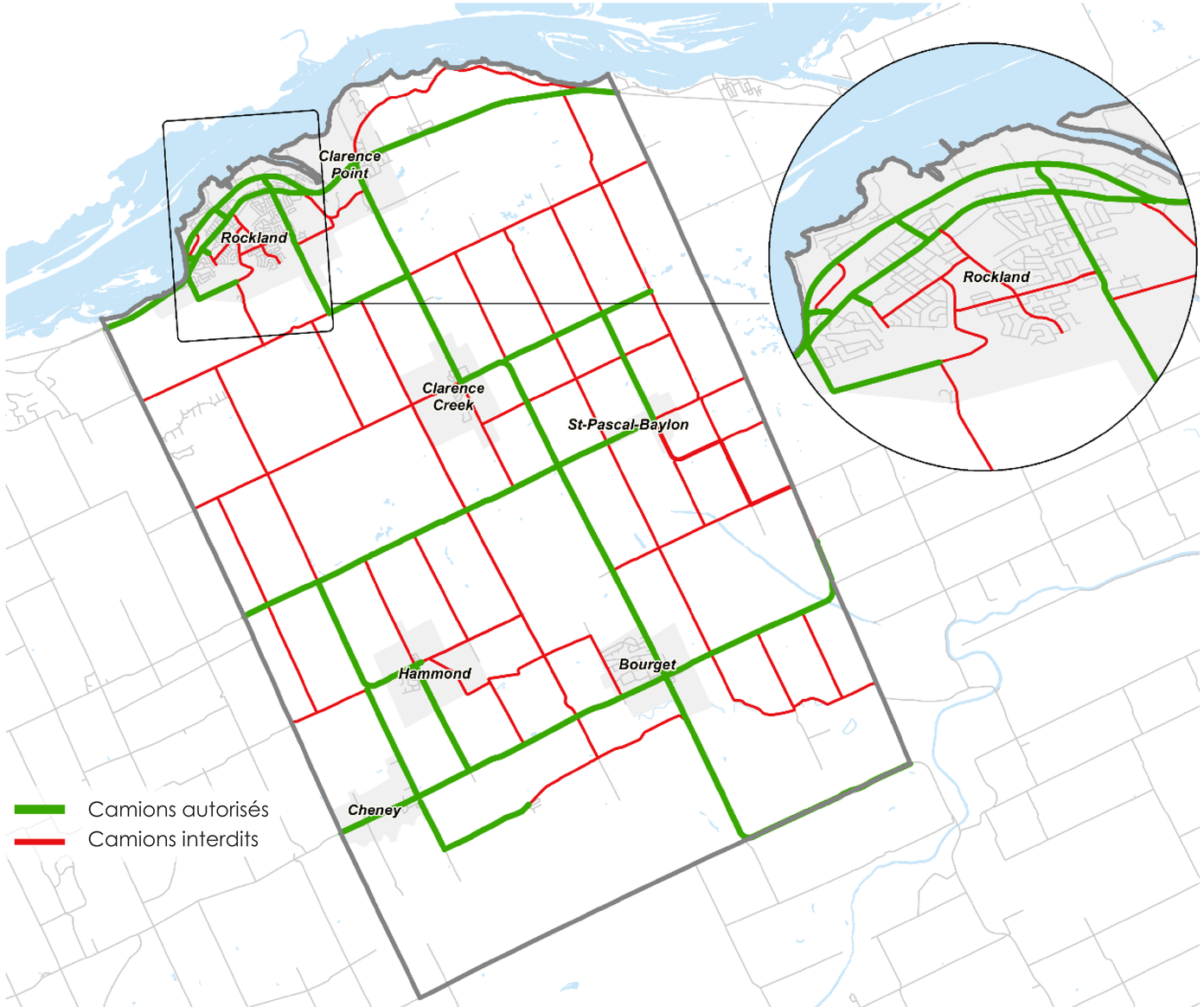
Améliorations proposées pour les itinéraires pour camions

Formalisation des itinéraires/restrictions pour camions

Les routes sont classées comme étant interdites aux camions en fonction des critères suivants :

- Restrictions actuelles
- Pente maximale de la route
- Courbes affectant la largeur et la visibilité des voies
- Limites de vitesse affichées
- Revêtement de la chaussée et capacité de charge (les camions ne sont pas autorisés à circuler sur des routes non revêtues)

Le réseau proposé lève les restrictions le long du Chemin du Lac entre les chemins Duquette et Henrie afin de créer un débouché et un itinéraire vers Saint-Pascal-Baylon pour le trafic autorisé sur le chemin Duquette.



Prochaines étapes

Phase 1

Problèmes et opportunités

- Collecte d’informations
- Détermination des problèmes et des opportunités

Phase 2

Solutions de rechange

- Détermination et évaluation de solutions de rechange
- Élaboration d’une stratégie de mise en oeuvre

Plan directeur de transport multimodal

Consultations continues

Avis de lancement de l’étude

Réunion publique (5 mars 2025)

Avis de fin de l’étude (mai 2025)

Nous vous remercions de votre participation!

N’hésitez pas à nous faire part de vos commentaires!

Contacter l’équipe de l’étude :
EEMPG_MCEA@clarence-rockland.com

Remplir le formulaire de commentaires

Contacter un membre de l’équipe de l’étude :

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Courriel : cbonneau@clarence-rockland.com

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Courriel : Nevena.Gazibara@stantec.com

Veuillez nous faire part de vos commentaires d’ici le 26 mars 2025