Multimodal Transportation Master Plan Amendment

The City of Clarence-Rockland

MAY 2025

Clarence-Rockland

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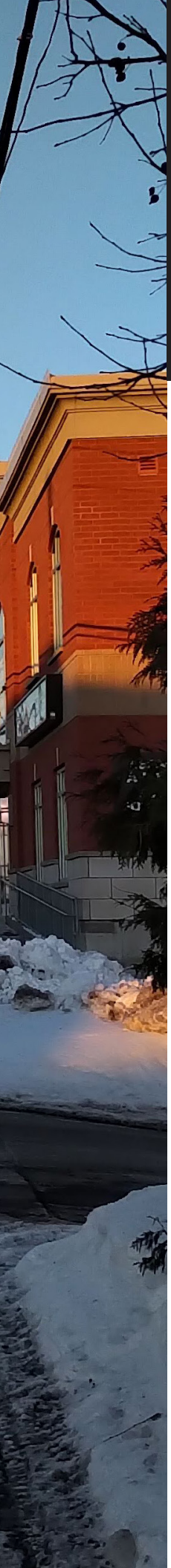

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1.0 Introduction

1.1 Amendment Purpose

This amendment to the 2019 City of Clarence Rockland Multimodal Transportation Master Plan (MMTMP) updates the long-range strategic transportation infrastructure plan for the entirety of Clarence-Rockland based on changes in available transportation options and resident/visitor travel behaviour since the original plan was authored. Like the original, the updated planning addresses new challenges, supports growth, and includes policies to guide transportation and land use decisions.

As related in the 2019 MMTMP, this Amendment is integrated with visioning, environmental planning, and sustainability principles to provide a prioritization framework for implementing coordinated improvements on a City-wide basis. The 2025 MMTMP Amendment 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. The City of Clarence-Rockland outlined general requirements for the original 2019 MMTMP including the following components:

- Evaluate vehicular, truck, transit, and active transportation operations;
- Assess the city's multimodal transportation planning needs for the next 5, 10 and 15 years;
- Develop a complete streets strategy, parking management strategy, and traffic calming policy; and
- Create an Implementation Plan and Financial Assessment.

The purpose of this Amendment is to revise the city-wide transportation plan that not only identifies improvements within the City's urban areas, but also considers opportunities to integrate the City's hamlets and rural areas in a manner that preserves the quality of life and character of the community.

1.2 Using the MMTMP

Like the 2019 MMTMP, the Amendment is meant to be used by transportation stakeholders as both a reference and a guiding document for developing strategies and making investment decisions. It may also be used as a starting point for the development of more detailed transportation-related studies, projects, and initiatives.

The MMTMP and its Amendement have many potential uses and broad applicability.:

- The amended MMTMP empowers the public to actively participate in the development of City transportation initiatives and gaining a better understanding of how mobility choices will improve in the future.
- Elected Officials should use the amended MMTMP to assist in decision making. They can also use it to educate and engage their constituents about transportation-related changes that will impact their neighbourhoods and the City as a whole.
- City staff should use the amended MMTMP as a guide to making clear, balanced, and fiscally prudent decisions on transportation initiatives, infrastructure investments, and program administration. MMTMPs can be used as the basis for implementing a City's Official Plan.
- City engineers, designers and capital delivery programs staff should scope transportation capital programs and plans to implement the amended MMTMP.
- City transportation professionals, planners and health practitioners will be able to use the transportation system performance targets to achieve modal-split aspirations and improve the reliability of travel by balancing the transportation network for all users, regardless of age, ability or income.
- The amended MMTMP can be used to position the City into a "state-of-readiness" for partner-funded transportation initiatives (e.g. Federal, Provincial, Public-Private-Partnerships) as funding becomes available and partners are engaged.
- Prospective investors in the City may use it to make development decisions based on transportation initiatives that result in newly available connections.

1.3 Environmental Assessment (EA) Process

The 2019 MMTMP was developed according to the Municipal Class Environmental Assessment process (October 2000, as amended in 2007, 2011 & 2015) for Master Plans (Approach 1).

The Master Plan approach recognizes that there are benefits to using the EA process when comprehensive plans are undertaken for projects that have a relatively minor impact according to their environmental significance and the effects on the surrounding environment. The strategies of the MMTMP and this Amendment include road and active transportation projects as well as recommendations relating to public transit.

Approach One of the Municipal Class EA process performs Phase One and Phase Two of the EA process including the identification of problems & opportunities, identification and

evaluation alternative solutions to address cited problems, establishment of preferred solutions, and the preparation of a Master Plan document at the conclusion of Phase Two.

Master Plans are typically done at a broad level of assessment thereby requiring more detailed analysis or investigations at the project-specific level in order to fulfill the requirements for specific Schedule B and C projects identified within the Master Plan. Projects categorized as exempt, either due to their scope and scale or the results of a relevant screening process, can be implemented upon approval of the Master Plan. Examples of transportation projects under each schedule of environmental assessment are summarised in **Table 1.2**.

Master Plans should be reviewed every five years to determine the need for a comprehensive formal review and/or update. Potential changes which may trigger the need for a detailed review include:

- Major changes in the original assumptions.
- Major changes to components of the master plan.
- Significant new environmental effects.
- Major changes in proposed timing of projects within the master plan.

Additionally, other changes including significant new health effects, funding opportunities, changes or updates to internal guiding documents (i.e. an Official Plan Update) and changes to external guiding documents should also be considered to trigger a review of the Multimodal Transportation Master Plan.

Table 1.1 Transportation Projects/EA Schedule Association

EA Schedule	Types of Transportation Projects
Exempt	Maintenance, operation, rehabilitation, and other small projects that are limited in scale and have minimal adverse environmental effects (e.g. Snow and de-icing operations, resurfacing, streetscaping, local road construction, reconstruction with no accompanying lane changes, redesignation of painted lanes, lower value sidewalk and bicycle facility construction, transit maintenance and operations)
Eligible for Screening	Exempt or subject to Schedule B or C processes based on the results of a relevant screening process (e.g. construction of large parking lots not associated with a building, construction of a new collector road, reconstruction of certain bridges and underpasses)
Schedule B	Projects with the potential for some adverse environmental effects, which require proponents to complete phases one and two of the planning and design process, including mandatory consultation with Indigenous Communities and directly affected public and relevant review agencies (Construction in environmentally sensitive areas, moderate value sidewalk and bicycle facility construction, small scale new roadway construction or widening, reconstruction of bridges to increase travel lanes)
Schedule C	Projects with the potential for signifcant adverse environmental effects, which require proponents to complete all phases of the planning and documention process, including mandatory consultation with, and review of an enivronmenal study report by Indigenous Communities and directly affected public and relevant review agencies (High value sidewalk and bicycle facility construction, large scale new roadway construction or widening, construction of grade-separated transit facilities)

Source: Amended Municipal Class Environmental Assessment, 2023

1.4 Amendment Structure

This Amendment restructures the 2019 MMTMP in multiple ways. In certain cases, existing conditions assessments have been repeated with more current inputs. In other cases, new methodology has been utilized to draw new insights regarding previously examined topics. Material still applicable to decision making has alternately been retained with minimal editorial changes and/or moved within the structure of the document where warranted. Topics and analyses from the 2019 MMTMP that were not repeated as part of this effort may be referenced within the narrative or completely removed if no longer applicable to future planning conclusions.

This document does not include the major Traffic Calming policy element, which has been revised under a separate scope of work to take the form of a separate standalone document, attached to the 2025 MMTMP Amendement as Appendix A.

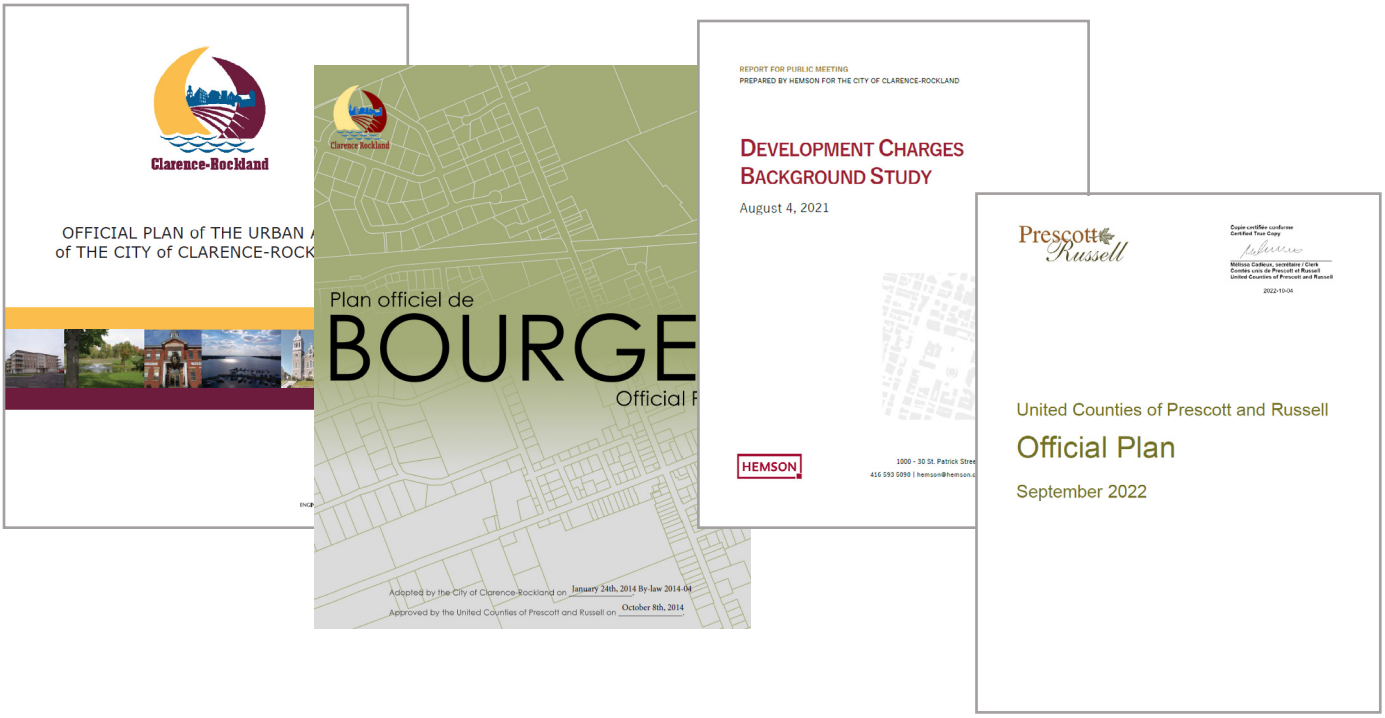
Table 1.2 summarizes the restructuring of the Amendement by listing section topic headers from the 2019 MMTMP, corresponding locations in the Amendement, and the level of modification from data/policy updates to major content changes, retention, and removal.

Table 1.2 Topic Relationships between 2019 MMTMP and 2023 Amendment

2019 MMTMP Section Heading	Corresponding Amendment Section Heading	Action Taken
1.1 Building an Interconnected Network		Removed
1.2 Purpose of the Plan	1.1 Amendment Purpose	Minor Edits
1.3 Using the MMTMP	1.2 Using the MMTMP	Minor Edits
1.4 The Environmental Assessment Process	1.3 The Environmental Assessment Process	Updated
1.5 Engagement	5.0 Engagement	Major Update
1.6 Collaboration with other studies	2.1.4 Ongoing Local Studies	Updated
2.1 The Community	3.1 The Community	Updated
2.2 Multi-Modal Network	3.2 Multimodal Network	Moved
2.2.1 Road Classification	3.2.1 Road Classification	Updated
2.2.2 Commercial Vehicle Network	3.2.2 Commercial Vehicle Network	Moved
2.2.3 Transit Network	3.2.3 Transit Network	Major Update
2.2.4 Active Transportation Network	3.2.4 Active Transportation	Updated
2.3 Travel Characteristics	3.3 Travel Characteristics	Moved
2.3.1 Trip Distribution	3.3.1 Commuter Flows	Updated
2.3.2 Trip Time		Removed
2.3.3 Trip Volumes	3.3.3 Weekday Peak Period Trip Analysis	Major Update
2.3.4 Intersection Operations		Removed
2.4 What we heard		Removed
3.1 Historical and Future Growth	4.1 Historic and Future Growth	Major Update
3.2 Traffic Forecasts & Operations		Removed
3.2.3 Planned Improvements	4.2 Planned Improvements	Updated
3.3 What we heard		Removed
3.4 Needs & Opportunities	6.1 Needs and Opportunities	Major Update
4.1 Planning Context	2.1 Planning Context	Moved
4.1.1 Provincial	2.1.1 Provincial	Updated
4.1.2 County	2.1.2 County	Updated
4.1.3 Local	2.1.3 Local	Updated
4.2 Guiding Themes	2.4 Guiding Themes	Moved
4.2.1 Smart Cities & Open Data	2.4.1 Smart Cities & Open Data	Moved
4.2.2 Mobility as a Service (Maas)	2.4.2 Mobility as a Service (Maas)	Moved
4.2.3 Complete Streets	2.4.3 Complete Streets	Updated
4.2.4 Vision Zero	2.4.4 Vision Zero	Moved
4.3 Strategic Priorities	2.2 Strategic Priorities	Minor Edits
4.4 Vision & Objectives	2.3 Vision Statement, Goals, and Metrics	Major Update
5.1 Active Transportation Evaluation	6.2 Recommended Multimodal Network	Updated
5.1.1 Facility Selection	6.2.2.3 Bicycle Network	Moved
5.1.2 Network Evaluation Criteria	6.2.3 Project Evaluation	Major Update

2019 MMTMP Section Heading	Corresponding Amendment Section Heading	Action Taken
5.2 Recommended Multi-Modal Network	6.2 Recommended Multimodal Network	Minor Edits
5.2.1 Pedestrian Network	6.2.1.1 Pedestrian Network	Major Update
5.2.2 Cycling Network	6.2.1.2 Bicycle Network	Major Update
5.2.3 Transit Network & Service Strategy	6.2.1.3 Transit Network & Service Strategy	Major Update
5.2.4 Vehicular Network	6.2.2 Vehicular Network 6.2.2.1 Physical Modifications	Major Update
5.3 Policies & Strategies	6.3 Policies & Strategies	Updated
5.3.1 Transportation Demand Management	6.3.3 Transportation Demand Management	Condensed
5.3.2 Traffic Calming	6.3.1 Traffic Calming	Major Update
5.3.4 Complete Streets & Road Classification	6.2.2.2 Road Classification Updates 6.3.2 Complete Streets	Major Update
5.3.5 Active Transportation Winter Maintenance Strategy	6.3.4 Active Transportation Winter Maintenance Strategy	Condensed
5.3.7 Downtown Parking Management	6.3.5 Downtown Parking Management	Condensed
5.4 Implementation & Costs	6.4 Implementation	Major Update
5.4.1 The Concept		Removed
5.4.2 Costs of the Plan	6.4.1 Costs of the Plan	Major Update
5.4.3 Funding Mechanisms for Active Transportation		Removed
6.0 Bibliography		Removed
	1.4 Amendment Structure	Addition
	3.3.2 Internal-External Automobile Travel	Major Addition
	3.3.4 Active Transportation Activity Analysis	Major Addition

2.0 Foundations



2.1 Planning Context

The MMTMP is directed by several key Provincial, County and local municipal policies that set a strong foundation to manage growth while building strong, healthy and sustainable communities.

2.1.1 Provincial

#CycleON Action Plan 2.0, 2018: #CycleON is Ontario's 20-year vision to have cycling recognized as a respected and valued mode of transportation within Ontario. The plan and its updates acknowledge Cycling's potential to bringing province-wide benefits in terms of personal and public health, the environment, tourism and traffic congestion. Five strategic directions guide action by the government and partners:

- Design healthy, active and prosperous communities;
- Improve cycling infrastructure;
- Make highways and streets safer;
- Promote awareness and behavioural shifts; and
- Increase cycling tourism opportunities

In 2018, the Ministry of Transportation and the Ministry of Tourism, Culture and Sport released #CycleON Action Plan 2.0, the second installment in the series which contains 38 action items, both new and ongoing, that will continue to advance cycling and cycling safety in Ontario.

Provincial Policy Statement (PPS), 2020: The Province's policies on land use planning and development to enhance the quality of life for all Ontarians require transportation systems that are safe, energy efficient, facilitate the efficient movement of people and goods, and are appropriate to address projected needs. As part of a multimodal transportation system, the Province requires maintenance and improvement of connectivity within and among transportation systems and modes as well as the protection of corridors for future infrastructure and major goods movement facilities.

2.1.2 County

Prescott-Russell Recreational Trail Strategic Plan, 2014: The Prescott-Russell Recreational Trail runs 72 km along a former CN railway right-of-way through five municipalities within the United Counties, including Clarence-Rockland. The Strategic Plan, completed in 2014, outlines a re-scoped and focused role for the trail. Recommendations include endorsing the renewed mandate of the Prescott-Russell Recreational Trail Corporation, adopting an updated marketing strategy, improving signage on the on-road cycling network, adopting a prioritized list for paving of road shoulders along County roads and integrating it into Public Works budgets, including policy statements aimed at improving active transportation uptake in municipal official plans, and including sidewalk and cycling facility requirements in municipal by-laws.

Although the Recreational Trail Strategic Plan was not approved by Council, Council later adopted a policy requiring the implementation of paved shoulders as part of road construction / rehabilitation projects, where appropriate.

Prescott-Russell Recreational Trail Assessment and Improvement Plan, 2015: The Prescott-Russell Recreational Trail Assessment and Improvement Plan, examines in detail the Prescott-Russell Recreational Trail and presents a detailed financial and technical plan for improving the trail over the short- and long-term. High- and medium-priority improvement items include surfacing repair, especially on the eastern portion of the trail, trail access reconfiguration, safety hazard mitigation, and vegetation removal and pruning. The total estimated cost for trail improvements is approximately $2 million, including $790,000 for high priority action items; the study noted that this cost can be reduced if the United Counties uses in-source resources instead of outsourcing at standard contractor rates.

Prescott-Russell Commuter Cycling Plan, 2018: The United Counties undertook development of a Commuter Cycling Plan to guide the implementation of a Counties-wide cycling network over the short, medium and long-term horizons. The Commuter Cycling Plan provides recommendations for a connected commuter cycling network, in addition to a phased implementation strategy, and supportive programs promote and encourage cycling. The plan endeavors to develop a commuter cycling network that serves key commuter and high-frequency destinations, enhance connectivity to commuter cycling networks in adjacent jurisdictions, and estimate capital requirements.

Prescott-Russell Official Plan, 2022: The Official Plan provides guidance and direction for growth, development, and land-use planning within the United Counties of Prescott and Russell for a twenty-year planning period. This includes detailing the policy framework for regulatory tools within the Counties' constituent lower-tier municipalities, which comprises zoning by-laws, plans of subdivision and consents, and municipal budgets and by-laws. The most recent Official Plan for the United Counties was adopted by County Council in September 2022, and was approved by the provincial Ministry of Municipal Affairs and Housing in July 2023. The Plan provides an updated policy framework and schedules for topics such as resource management, growth management, natural heritage, and infrastructure in issues of Provincial, County, and local interest.

2.1.3 Local

Bourget Official Plan, 2014: The Bourget Official Plan establishes a planning concept, guiding policies, and implementation strategies to direct the growth and development of the Village of Bourget over a twenty-year horizon. It articulates a vision for the Village as a clean, safe, and connected community, and is structured with the goals of ensuring that the Village's growth is sustainable, improving active transportation facilities, creating a vibrant village core, and enhancing recreational opportunities for residents.

Transit Feasibility Study, 2014: As of 2014, no local intra-city transit service operated within the City of Clarence-Rockland; transit service only existed to connect Clarence-Rockland with the City of Ottawa. The Study determined the demand for local transit service and identified the associated operational, financial, and implementation requirements and implications of the City offering such a service. The Study analyzed the City's community profile and conducted a peer review of transit systems in 11 comparable municipalities. Combined with the results of a public engagement campaign and transit service analysis, these informed the Study's short-term recommendation of an on-demand transit pilot project in Clarence-Rockland, as well as longer-term options for the City which would build on the results of the pilot project.

Parks & Recreation Master Plan, 2016: The Parks and Recreation Master Plan sets out a framework of priorities and recommendations intended to guide the provision of parks and recreation services in the City of Clarence-Rockland. The Plan acts as a municipal blueprint of planning, financial, and implementation strategies to fulfill the City's stated goals and objectives of parks and recreation playing an active role in the lives of the City's residents. Highlighting the key relationship between active transportation modes and the success of municipal parks and recreational facilities, the Plan makes recommendations to a horizon year of 2031.

Community Improvement Plan Background Report, 2016: The City of Clarence-Rockland initiated its Community Improvement Plan in order to develop strategies to revitalize the City's commercial core along Laurier Street in Rockland by attracting new businesses and supporting existing ones. The Background Study involves a thorough review of the planning and policy context, as well as existing conditions in the area to help develop the options available to the City to realize the Plan's goals. The Study incorporates a strength, weakness, opportunities, and threats (SWOT) analysis, which highlights the strength of and opportunity presented by the urban fabric of Rockland's commercial core. The Study ultimately proposes a series of municipal grant programs to improve the area, as well as suggests implementation strategies.

Clarence-Rockland Strategic Plan, 2018: The Strategic Plan, which was developed by the City of Clarence-Rockland in 2018, is the culmination of a strategic planning process initiated by the City in 2015 with the goal of defining the City's overarching vision, mission, goals, and objectives. Taking into account the extensive feedback received from over 1,300 community members in an interactive and collaborative stakeholder engagement campaign, the City identified its four Strategic Pillars as Sense of Community, Health and Wellness, Financial Stability, and Environmental Responsibility. The Plan furthermore makes recommendations for implementing and monitoring initiatives which support the City's Strategic Pillars.

Expansion Lands Secondary Plan, 2019: Amendment No. 13 to the Official Plan of the Urban Area of the City of Clarence-Rockland provdes a planning framework to ensure that future development within the Expansion Lands — bounded primarly by David Street, Caron Street, and the Clarence Creek — occurs in an efficient, orderly and sustainable manner. The Expansion Lands were identified for development during the 2015 United Counties of Prescott and Russell (UCPR) Official Plan. The review identified a localized shortage of residential land supply in the City of Clarence-Rockland and resulted in the addition of approximately 133.5 hectares of land to the Rockland Urban Policy Area. Key components of the Secondary Plan include goals, objectives, policies and guidelines that provide direction for applying the policies of the Official Plan at a local scale. Development applications in the Expansion Area will be required to conform with the policies of the Secondary Plan, as well as the City of Clarence-Rockland Official Plan and the United Counties of Prescott and Russell (UCPR) Official Plan.

Official Plan of the Urban Area of the City of Clarence-Rockland, 2021: The Official Plan presents a strategy to direct the future development of the City's urban area (the community of Rockland) over a twenty-year period, and is consistent with the Provincial Policy Statement, the Planning Act, and the United Counties of Prescott & Russell Official Plan. The Plan sets out an overarching land use concept, specific governing policies in matters related to planning, and comprehensive implementation tools, thus aiming to ensure that the future growth of Rockland is sustainable, preserves the quality of life within the community, and reflects the community's existing unique character. It also sets out the City's own priorities with respect to Rockland's growth over a twenty-year period, including transportation facilities, environmental policy, zoning, parks and open space, heritage, and economic growth and development. The Plan is sensitive to the functional connections between Rockland, other hamlets and municipalities both in the City, the United Counties of Prescott & Russell, and the City of Ottawa.

Development Charges Background Study, 2021: The latest City of Clarence-Rockland Development Charges Background Study is presented as part of a process to lead to the approval of a new development charges by-law in compliance with the provincial Development Charges Act, which allows municipalities in Ontario to recover new development-related capital costs. Facing residential development pressure, and anticipating increased demand on City services, the City wished to continue implementing development charges to fund development-related capital projects so that such development continues to be serviced in a fiscally responsible manner. The Study presents the results of the review to determine the net capital costs attributable to new development that is forecast to occur in the City of Clarence-Rockland between 2021 and 2030. These development-related net capital costs are apportioned to various types of development (residential; non-residential) in a manner that reflects the increase in the need for each service.

2.1.4 Ongoing Local Studies

City initiatives and planning efforts related to the MMTMP that progressed in parallel to, and informed this update included:

- Rockland West Secondary Plan
- St-Jean Street - Poupart Road Municipal Environmental Assessment

2.2 Strategic Priorities

The City of Clarence-Rockland is committed to the provision of municipal services in a sustainable manner to meet the present and future needs of its communities. In 2015 a Strategic Plan to guide the City through to 2021 was created focusing on four strategic pillars including:

Sense of Community: The residents and business in the City are proud of their bilingual culture, their rich heritage, the abundance of natural features in both a rural and urban setting and the extensive number of municipal facilities. It is important that the City acknowledge these traits and provide services that reinforce these community values.

Health and Wellness: The municipality commits to providing services that respond to the continued health and well-being of its residents.

Financial Stability: The City is subject to increasing demands to maintain existing infrastructure and programs as well as position itself for the future. It is, therefore, critical that the municipality ensure that appropriate levels of funding are available to meet community needs and expectations. It is necessary that Council and the administration assesses and implement innovative funding strategies to meet the pressures of funding future requirements.

Environmental Responsibility: Clarence-Rockland has a significant amount of infrastructure that needs to be maintained in an environmentally responsible manner. The City must ensure that timely rehabilitation works are implemented to protect our environment while meeting the needs of the community. It is anticipated that the municipality will continue to grow thus placing further pressures on sound environmental stewardship.

2.3 Vision Statement, Goals, and Metrics

A well-designed multimodal transportation network can be a strong contributor to achieving the local goals that are articulated in prior planning and policy. Quality of design and functionality means establishing a **simple and effective multimodal transportation network** that everyone can understand and use. Understanding why people may react to transportation options in different ways, based on their personal needs and circumstances, helps to create a multimodal network that is intuitive and that reduces the barrier to use - potentially offering new and sustainable ways to travel for many. The creation of a vision is necessary to create a sense of unity and cohesion among expectations for the function of the multimodal transportation network. The MMTMP subsequently articulates the vision by describing that future function in terms of service and infrastructure, finally outlining a plan of achievement.

A vision statement should be attached to goals or objectives whose achievement will in turn realize the overall vision. Likewise, progress toward goals should be measureable to continually make clear to City staff and residents the extent to which the plan has been implemented and what remains to be accomplished and improved.

Engagement performed as part of the 2019 MMTMP development process noted that residents wanted a transportation plan with a vision focused on efficient motor circulation. Resident of rural and hamlet areas surprisingly placed more importance on active transportation and sidewalk safety compared to respondents from Rockland. Sidewalk safety was a consistenly demanded topic as a visioning priority across all City areas and age groups. Residents also identified a desire for active transportation options to be able to periodically leave their car behind as well as make use of other modes for recreation.

The 2025 Amendment to the 2019 Master Plan puts forth a new vision statement better aligned with public desires and City priorities by defining what the transportation system should do rather than what the multimodal transportation should be. The new vision statement is intended to describe an ideal outcome and impact of recommended projects on the transportation network and on the City as a whole. By its nature, it is an inspirational and idealistic declaration.

The goals defined to achieve the vision intersect with each of the City's strategic priorities. Sustainable municipal infrastructure practices, a well-connected active transportation network, and ubiquitous safety enhancements contribute to a sense of community by creating exemplary shared resources that evoke pride and a sense that one is heard and cared for by their own community. The use of these resources directly provide greater opportunities to residents for healthier activity. In the long run, implementations focused on sustainability, public health, and public safety reinforce fiscal responsibility through resilience of that infrastructure as well as by reducing the external costs of negative impacts associated with less costly and/or unsustainable practices. Finally, whether related to questions of materials, infrastructure lifecycle, reusability, reduced transportation emissions and pollution, medical care, or post-injury needs, the three goals uphold the aims of environmental responsibility through quite different, but equally important approaches.

Vision Statement: 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.

Goals	Metrics
Support sustainable practices through maintenance and delivery of new multimodal infrastructure.	Number of transportation options available to each resident and business.
Promote tourism and healthier communities through maintenance of a well-connected active transportation network.	Increase in the number of connected links in the bicycle- and pedestrian-specific facilities networks, including sidewalks, multi-use trails, bike lanes, and paved shoulders.
Address community concerns regarding traffic safety.	Reductions in traffic safety indicators aiming for zero fatalities or serious injuries due to the implementation of network improvements and enhancements prioritizing safety.

2.4 Guiding Themes

Transportation networks are influenced and shaped by the communities they serve. Their role within the context of a municipality's quality of life can vary widely depending on how the community would like the network to serve them. Clarence-Rockland is a modern municipality that balances its rural charm with urban vitality. It is also a diverse city comprised of several unique communities. The City's transportation and active transportation systems must reflect the City's vision to foster multimodal transportation options that address the needs of people of all ages and abilities.

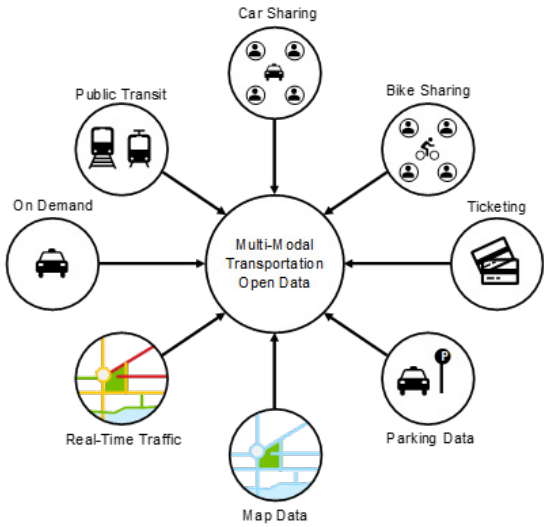
Not every trip can or should be served by alternative modes of transportation, but it must be recognized that private vehicles, transit, and active transportation are part of a larger multimodal mobility network that works together to provide transportation for the community as a cohesive system. To that effect, it is important that the planning of multimodal transportation services acknowledge the City's role in a regional context and provides connections to both local and regional facilities. This must all be done with a delicate balance between a focus on the people that the multimodal transportation network serves and the City's fiscal and environmental responsibilities of maximizing the network's efficiency while reducing the dependence on private automobiles.

2.4.1 Smart Cities & Open Data

In 2018, the City of Clarence-Rockland submitted an application to Infrastructure Canada's Smart Cities Challenge. Municipalities across Canada apply to the Challenge by submitting their vision for improving the lives of their residents through smart cities approaches that leverage innovation, data, and connected technology. Prizes to assist municipalities in achieving their vision are issued to the Challenge's winners. Clarence-Rockland submitted an application that describes the barriers that prevent uptake of active transportation as a travel mode by its residents. Its application articulates an innovative proposal to use smart city sensors and geospatial analysis to expand its active transportation network and encourage its growth as a healthy, connected city.

Smart cities are a new trend gaining traction across Canada and the world, whereby municipalities are starting to leverage Big Data to assist in municipal planning. A smart city is an urban area that uses different types of electronic data collection sensors to supply information which is used to manage assets and resources efficiently. In terms of mobility, traditional methods of data collection use pneumatic tubes or manual counting for automatic traffic recording which are often costly to implement, prone to high maintenance costs, and difficult to leverage for alternative modes of transportation like transit, cycling and walking. As shown schematically in **Figure 2.1**, there are new ways to leverage information and communication technology to optimize the cost-effectiveness of data collection and the efficiency of city operations to promote a dialogue between city planners and the public and to better inform on how the city travels.

Figure 2.1 Data-Leveraged Transportation Optimization



Hundreds of municipalities across Canada are leveraging open data to work with residents and businesses to develop cost-effective solutions to several issues. The expansion of open data, combined with advances in big data analytics, is freeing information that was once trapped inside the dusty pages of overlooked reports, enabling improved decision making, new product and service offerings, and greater accountability. This change comes at a time of heightened focus on data-driven knowledge and evidence-based decision making. Smart City technology and Open Data can help improve transportation-demand forecasting, prioritize transport infrastructure improvements, and synchronize the ways different modes of transportation inter-operate. For example, in Toronto the local transit agency, the Toronto Transit Commission (TTC), was able to avoid having to build their own mobile application to identify next-bus arrival times, by making their real-time vehicle GPS data open through an application programming interface (API). This avoided the need to procure a developer and handle the continual maintenance of a mobile application. This same process has been leveraged in the City of Ottawa for OC Transpo where there's been several mobile applications built using open data.

2.4.2 Mobility as a Service (MaaS)

Mobility as a Service (MaaS) is the integration of various forms of transport services into a single mobility service accessible on demand. To meet a municipality's transportation demand, MaaS facilitates a diverse menu of transport options including public transport, shared mobility programs, taxi, private automobile, or a combination thereof. For residents this approach can offer added value through use of a single application or service to provide access to mobility, with a single payment channel instead of multiple ticketing and payment operations. At its most basic level, MaaS fits within a value proposition by helping residents meet their mobility needs and solve the inconvenient parts of individual journeys as well as the entire system of mobility services. The aim of MaaS is to provide an alternative to the use of the private car that may be as convenient, more sustainable, help to reduce congestion and constraints in transport capacity, and can be even cheaper.

MaaS is a relatively new concept and approach to transportation planning, with elements primarily integrated in a piecemeal fashion in many jurisdictions across North America. The most abundant form of MaaS is via integrated ride-hailing mobility services such as Uber or Lyft and bikeshare services integrated into transit planning or maps applications such as The Transit App or Google Maps.

Cities around the world have managed to fundamentally change the way people search for, consume, and pay for transportation. Since 2016, residents of Finland have been able to use an app called Whim to plan and pay for all modes of public and private transportation within the city – be it by train, taxi, bus, carshare, or bikeshare. Anyone with the app can enter a destination, select his or her preferred mode of travel, or in cases where no single mode covers the door-to-door journey, a combination of modes and be immediately provided with transportation solutions. While there are obvious differences between the City of Clarence-Rockland and places where MaaS has experience widespread adoption, it is important to acknowledge that MaaS can be moulded to create a localized solution that works with the available transportation assets and scale.

2.4.3 Complete Streets

Complete Streets is an approach to balanced street design that seeks to accommodate everyone, regardless of their age, physical mobility, or socioeconomic status. This approach does not impose a uniform set of standards into cities. Rather, each city must tailor their approach to what works locally, considering contextual factors such as existing right-of-way, climate costs, and travel mode share objectives.

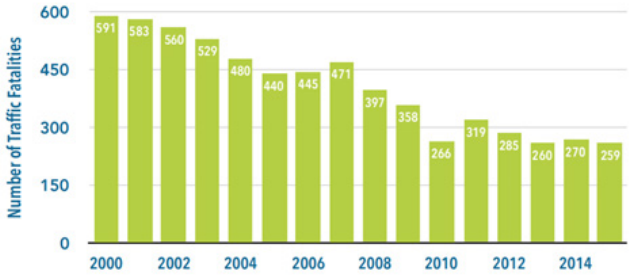
Study and application of Complete Streets concepts in a smaller municipality context has become more frequent. The Complete Streets for Canada online portal published background information in 2016 related to rural complete streets that recaps common issues such as through traffic, vehicular volumes in economic centres, and higher tier jurisdiction over key routes. The need for application of these improvement principles in rural areas is strong. A disproportionate number of pedestrian fatalities occur on rural roads, physical activity associated with alternative transportation modes leads to improved health outcomes, independent mobility or access to a motor vehicle is a foremost equity indicator in areas unserved by transit, and the presence of comfortable accommodations for all forms of transportation add liveliness and economic resilience to historic main streets.

As of early 2024, 102 municipalities across Canada have adopted Complete Streets policy documents, including Ottawa, who in addition to clear guidelines and standards, has integrated Complete Streets principles into case studies and transportation plans.

2.4.4 Vision Zero

Vision Zero is a multi-national road traffic safety project that aims to achieve a transportation network with no fatalities or serious injuries involving road traffic. This approach started in Sweden and was approved by their parliament in October 1997. A core principle of the vision is that "Life and health can never be exchanged for other benefits within society" rather than the more conventional comparison between costs and benefits. Sweden has made tremendous progress in road safety. Between 2000-2015 the number of traffic fatalities in Sweden decreased by over 50% as visualized in **Figure 2.2**.

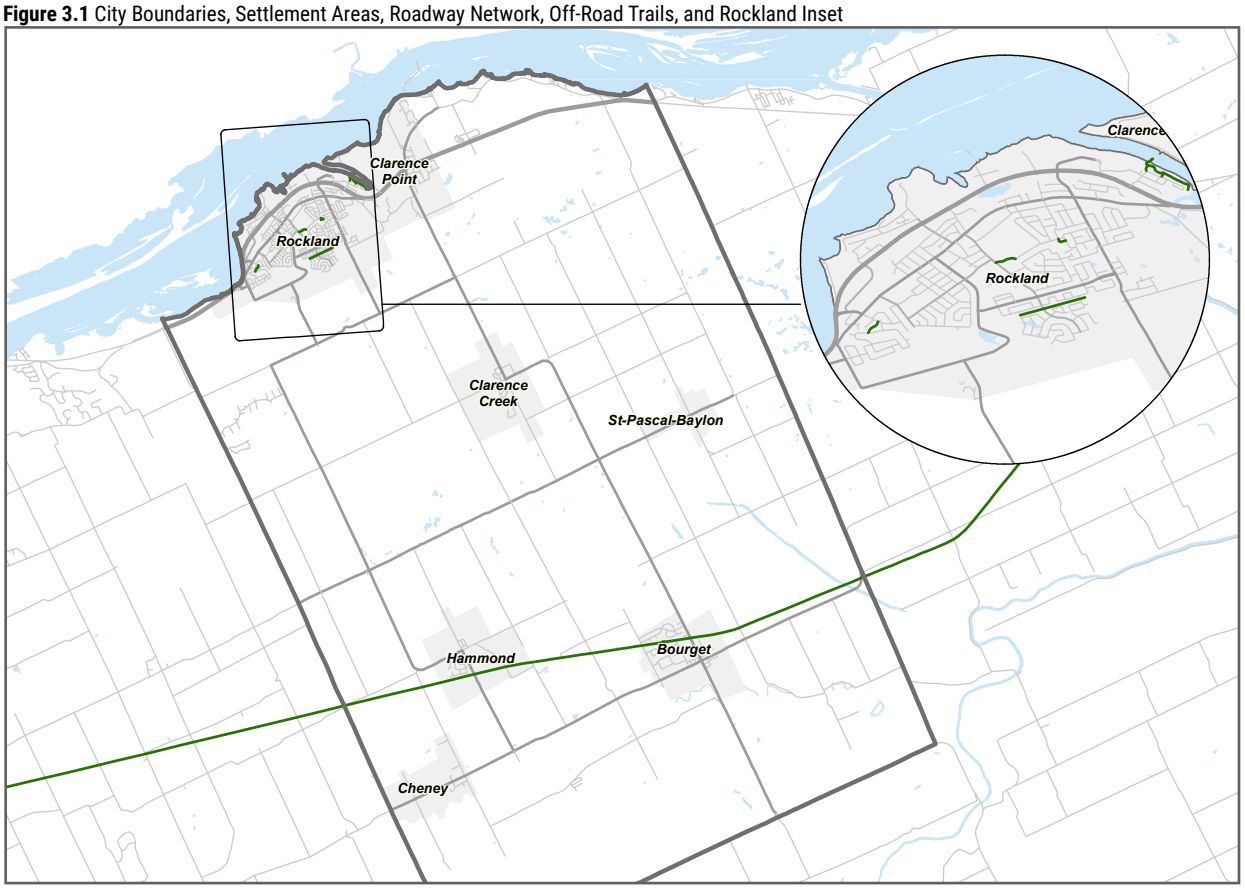
Figure 2.2 Traffic Fatalities in Sweden | 2000-2014



Several municipalities across Canada are beginning to embrace the Vision Zero approach to road safety by implementing road safety plans and actions to reduce road-related fatalities and protect vulnerable road users. In 2015, Edmonton became the first major Canadian City to officially adopt Vision Zero with the City of Toronto soon following suit in 2017. Vision Zero is now a fully recognized policy approach toward planning for road safety. The City of Ottawa's Road Safety Action Plan 2020-2024 represents its second safety plan using Vision Zero principles.

3.0 Current Condiions

Figure 3.1 City Boundaries, Settlement Areas, Roadway Network, Off-Road Trails, and Rockland Inset



3.1 The Community

A multimodal transportation network must be planned according to the local geography and demographics to best address and recommend solutions tailored for the local context. Understanding the correlation between shifting age groups or changing land uses is imperative in understanding why the city moves in a particular way as well as understanding where residents and businesses will need to go in the future. The Master Plan Amendment process represents a unique opportunity to observe trends related to transportation as they evolve.

The City of Clarence-Rockland continues its steady population growth. From 23,185 to 24,512 to 26,505 over the last three census, Clarence-Rockland is the largest municipality within the United Counties of Prescott Russell (UCPR), comprising over a quarter of its total population (95,639). Clarence-Rockland's position in the nothwestern-most corner of UCPR, which extends as far east as the border with Québec, places it at the eastern edge of the Ottawa-Gatineau Census Metropolitan Area, a region with nearly 1,500,000 inhabitants. The population centre of the City, Rockland (population 13,625), is located approximately 38 kilometres east of Downtown Ottawa.

Other primary settlement areas in Clarence-Rockland are located in the communities of Bourget (pop. 1,175), Clarence Point, Clarence Creek, Hammond, Cheney, and St-Pascal-Baylon. **Figure 3.1** shows the spatial distribution of these communities within the larger City. Approximately 59% of Clarence-Rockland residents identify French as their first official language spoken, one of the highest proportions in a Canadian municipality outside of the province of Québec.

Far and away, the fastest growing age cohort in Clarence-Rockland is made up of residents over 65 years of age. This group grew over 30% between 2016 and 2021 through in-migration and aging, and is now also the largest cohort displayed in **Figure 3.2**. In just five years, the 55- to 64-year-old age group grew by 13% while those aged 45 to 54, the largest adult set in 2016, shrank by 11%. This aging trend is also reflected in the median age, which grew from 42.2 to 43.2 years since 2016, outpacing the nation median of 41.6 years. Those 14 years of age and younger still comprise the second largest bracket, and the demographic shape of the community is expected to change somewhat as this group becomes working-age, though 15- to 24-year-olds make up the smallest group of residents.

The overall population density is 89.1 people per square kilometre, an increase from 82.3 in 2016. The City's major population centre, Rockland, accounts for over half of the City's population and is primarily a residential community supporting a centralized commercial core along Laurier Street, with other commercial uses along County Road 17.

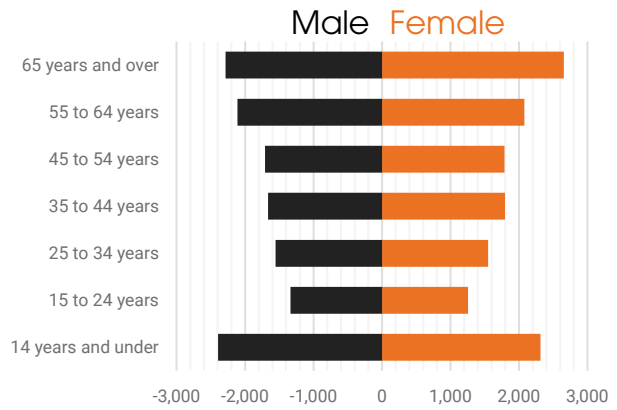
The development of Rockland initially centered along Laurier Street. However, over the past 25 years, Rockland has grown beyond this central area as shown in **Figure 3.3**. Newer residential developments have progressed southward away from Laurier Street, while newer retail developments have materialized at the western extent of the urban area near the intersection of Richelieu Street and Carmen Bergeron Street as well as along Chamberland Street close to the intersection with County Road 17. Laurier Street remains as the backbone of the community, with City Hall, Canada Post, government offices, and a mix of retail and service businesses located along the functional main street. Simon Park, the City's recreational centre, and its public library are also in close proximity to Laurier Street. The City continues to prioritize the revitalization of the commercial core area per its latest Community Improvement Plan.

The City's second largest urban community, Bourget, centers around the intersection of County Road 2 (Russell Road) and County Road 8 (Champlain Street) as shown in **Figure 3.4**. Bourget is primarily a residential community with a healthy village core.

While Clarence-Rockland in the midst of its biggest building boom since the 1980s, the ten-year period from which the plurality of residential units were constructed, the overwhelming majority of building inventory in the City's urban communities are lower-density. Only 20% of the current housing supply takes the form of higher-density housing types, as shown in **Table 3.1**, yet this represents a relative increase since 2011 as duplexes, rowhouses, and apartments made up fully 32% of residential units constructed between 2011 and 2016. Of the 10,095 households identified in the 2021 Census, approximately 82% are owner-occupied. The average household size in Clarence-Rockland is 2.6 persons.

Clarence-Rockland is home to many whose employment is centred in the National Capital Region (NCR). This relationship is reflected in the employment distribution of the City's residents, as illustrated in **Table 3.2**. The distribution is similar to that of the NCR in general, with a high proportion of workers employed in the business, finance, education, law, government, sales, service, and health sectors. A significant percentage of the population is also employed in the trades and transportation sectors.

Figure 3.2 Population Pyramid 2021



Source: Statistics Canada - Community Profile, 2021

Table 3.1 Historical Household Construction by Period

Period	Singles/ Semis	Duplex	Rows	Apts.	Total
Pre-1961	930	80	10	135	1,155
1961-1970	365	55	30	90	540
1971-1980	1,060	120	10	105	1,295
1981-1990	1,685	90	75	155	2,005
1991-2000	1,215	50	80	105	1,450
2001-2005	765	10	50	130	955
2006-2010	805	15	90	120	1,030
2011-2016	615	15	105	170	905
Total	7,440	435	450	1,010	9,335
	79.7%	4.7%	4.8%	10.8%	

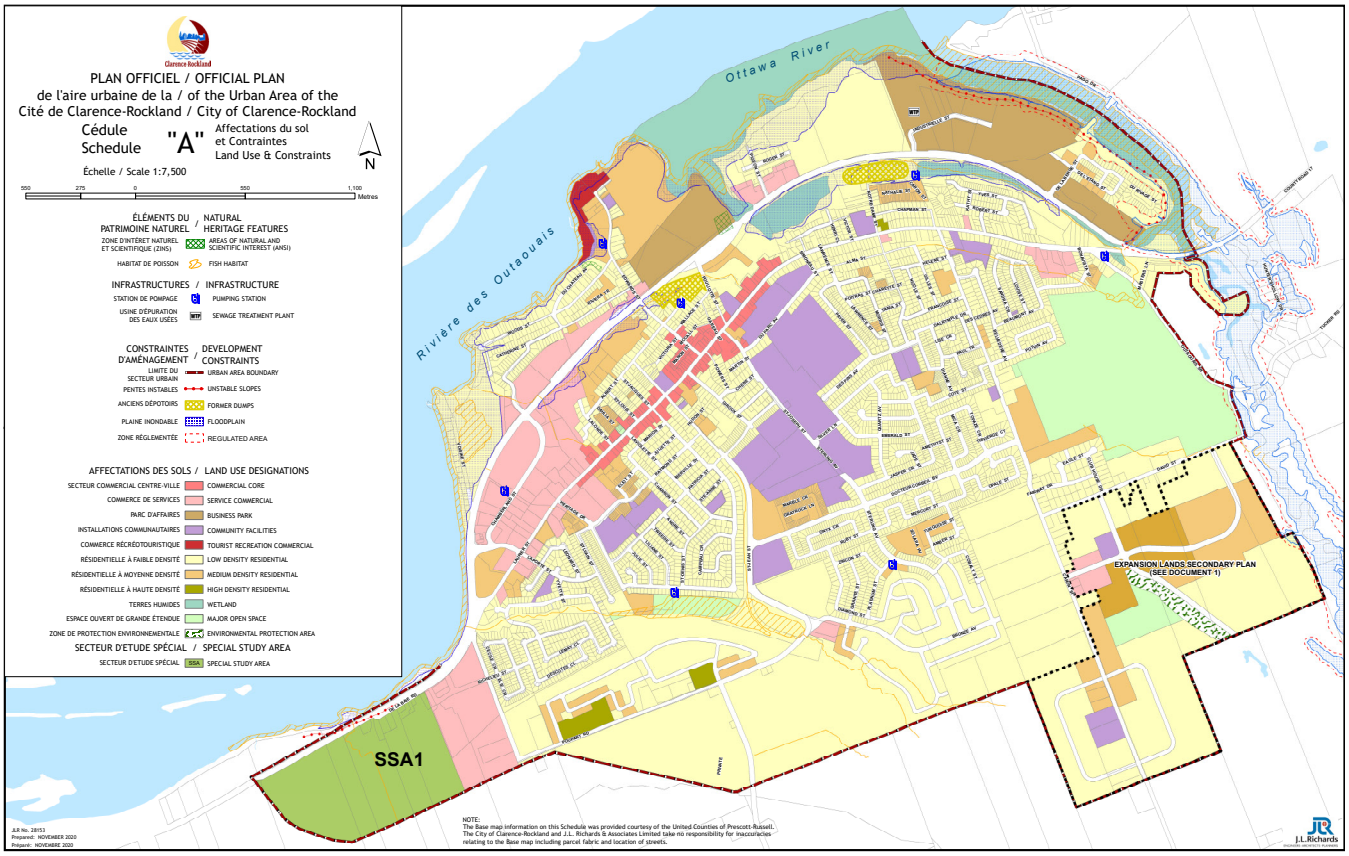
Source: Development Charges Background Study, 2021

Table 3.2 Municipal Occupation Split

Occupation	Employment	% Total
0 Legislative and Senior Management Occupations	170	1%
1 Business, Finance, and Administration Occupations	2,930	21%
2 Natural and Applied Sciences and Related Occupations	1,035	7%
3 Health Occupations	895	6%
4 Education, Law and Social, Community and Government Services	2,110	15%
5 Art, Culture, Recreation, and Sport Occupations	310	2%
6 Sales and Service Occupations	2,690	19%
7 Trades, Transport and Equipment Operators and Related Occupations	3,060	22%
8 Natural Resources, Agriculture, and Related Production Occupations	285	2%
9 Manufacturing and Utilities	180	1%
Not Applicable	190	1%
Total	**13,875**	

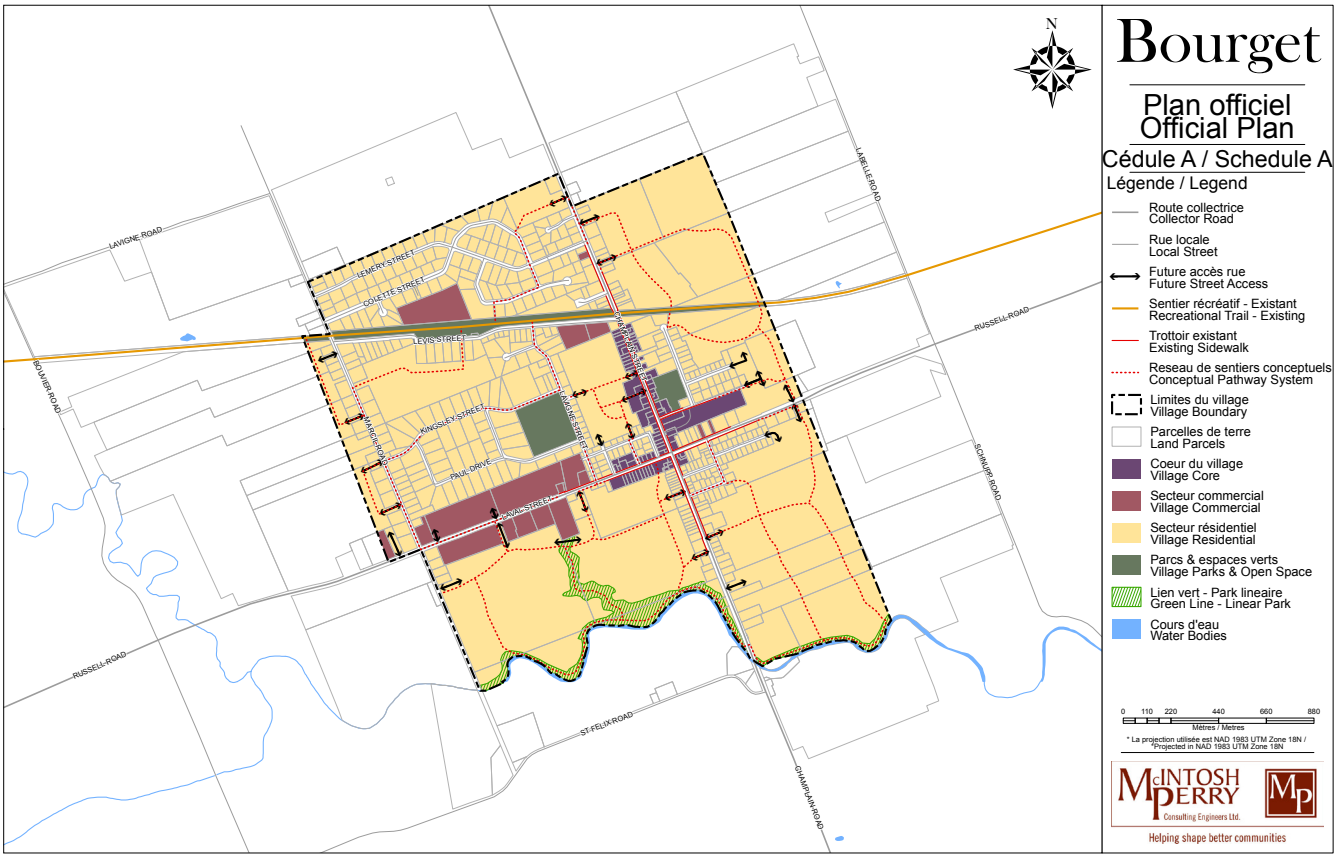
Source: Statistics Canada - Community Profile, 2021

Figure 3.3 Existing Land Use in Rockland



Source: Official Plan of the Urban Area of the City of Clarence-Rockland, 2021

Figure 3.4 Existing Land Use in Bourget



Source: Bourget Official Plan, 2014

3.2 Multimodal Network

3.2.1 Road Classification

The City of Clarence-Rockland's 2021 Official Plan update based changes to the City's road classification system on the 2019 MMTMP. The transportation infrastructure network consists of several different road types, all adhering to complete streets principles, which are intended to serve and meet different objectives. The city's road classification system is visualized in **Figure 3.5** and consists of the following:

- **Arterial Roads:** Dedicated to long-distance connections between neighbouring municipalities and designed to handle large volumes of traffic at higher speeds. Because of this, Arterials should have off-road active transportation facilities such as multi-use paths or cycle tracks to provide active transportation access where needed. All Arterial Roads within Clarence-Rockland are under the jurisdiction of the United Counties of Prescott and Russell, including entrance permits, signage, building form and location, and land use. Limited access control is provided to and from arterial roads for land service and access. Arterial roads within the City have been designed to accommodate approximately 20,000 vehicles per day, have uninterrupted flow, have a design speed between – 70 - 90 km/h, accommodate all vehicles including trucks, and connect with other arterials and collector roads.

- **Rural Arterial:** Rural Arterial roadways are similar to Arterial roadways in the sense that they should be dedicated to long-distance connections between neighbouring municipalities, but also should connect to rural areas and hamlets within Clarence-Rockland. They should be designed to primarily handle vehicular and commercial vehicle traffic at higher speeds. In a rural context, with lower expected traffic volumes, but higher expected traffic speeds, active transportation facilities should be provided as paved shoulders with protected buffers.

- **Main Street:** Dedicated to placemaking to accommodate a high demand for movement as well as a destination and activity centre within the same road space. These streets balance pass-through vehicular operations, with destination-based needs such on-street parking, pedestrian, cyclist, and transit stops. Because of this, Main Streets should have dedicated on-street cycling facilities with a preference for protected facilities such as flex bollard bike lanes, or cycle tracks, but can allow the use of painted bike lanes where space constraints prohibit using better facilities.

- **Collector Roads:** The City of Clarence-Rockland distinguishes between Major and Minor Collector Roads. Major Collector Roads are intended to service major commercial areas internal to Rockland as well as connect to Arterial and Rural Arterial Roadways. Minor Collector Roads are intended to service major neighbourhood nodes such as schools and community centres as well as provide a link to the broader Major collector roadway system. Collector roads serving residential areas are designed to accommodate approximately 8,000 vehicles per day. Collector roads serving industrial and commercial areas have been designed to accommodate approximately 1,000 – 12,000 vehicles per day. Street lighting, sidewalks on either side and a bicycle path on one side shall be provided along each type of Collector Road due to the expected higher volumes of traffic that will use these roadways. Collector roads will have an "interrupted flow" characteristic, will have a design speed between 50 – 60 km/h, and will accommodate a wide range of vehicle types including: passenger, service, industrial and commercial vehicles. Where needed on-street parking may also be accommodated, however, generally Major Collectors would not have on-street parking. On-street parking may be accommodated along Minor Collectors depending on the available space.

- **Local Roads:** For roads classified as local within the City, traffic movements are considered secondary, and the primary function of these roads are to facilitate local access to communities. Local roads servicing residential areas have been designed to accommodate approximately 1,000 vehicles per day, and local roads serving commercial areas have been designed to accommodate approximately 3,000 vehicles per day. Due to the low volumes of traffic that travel along Local Streets strategically located streets may accommodate pedestrian sidewalks on one or both sides of the street as well as signed bicycle routes to connect to the broader dedicated cycling system. Local roads have the flow characteristic of interrupted flow, have a design speed between 30 – 50 km/h, and accommodate passenger and service vehicles of all types. Local roads will connect with public lanes, other local roads, and collector roads. Transit services are generally avoided on local roads. On-street parking may be accommodated depending on the available space and need.

- **Private Roads:** Not maintained by the City of Clarence-Rockland, the primary function of private roads and public laneways is to provide access to condominium properties. These roads will connect with public lanes and local roads. Transit services are not permitted on this road classification. There are some parking restrictions. The minimum spacing of intersections on private roads and public laneways is as needed.

Figure 3.5 Clarence-Rockland Road Classification per 2021 Official Plan Consolidation

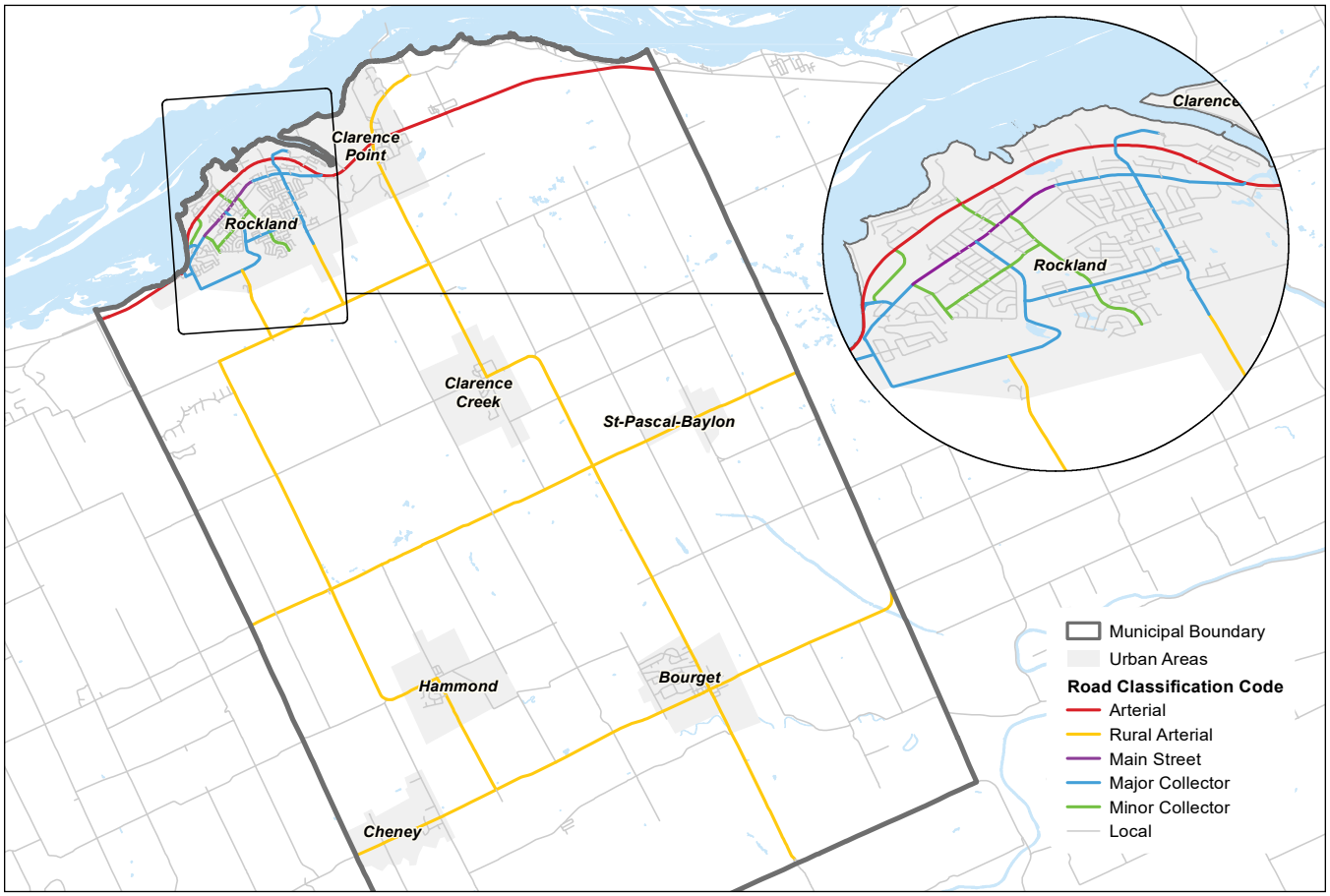
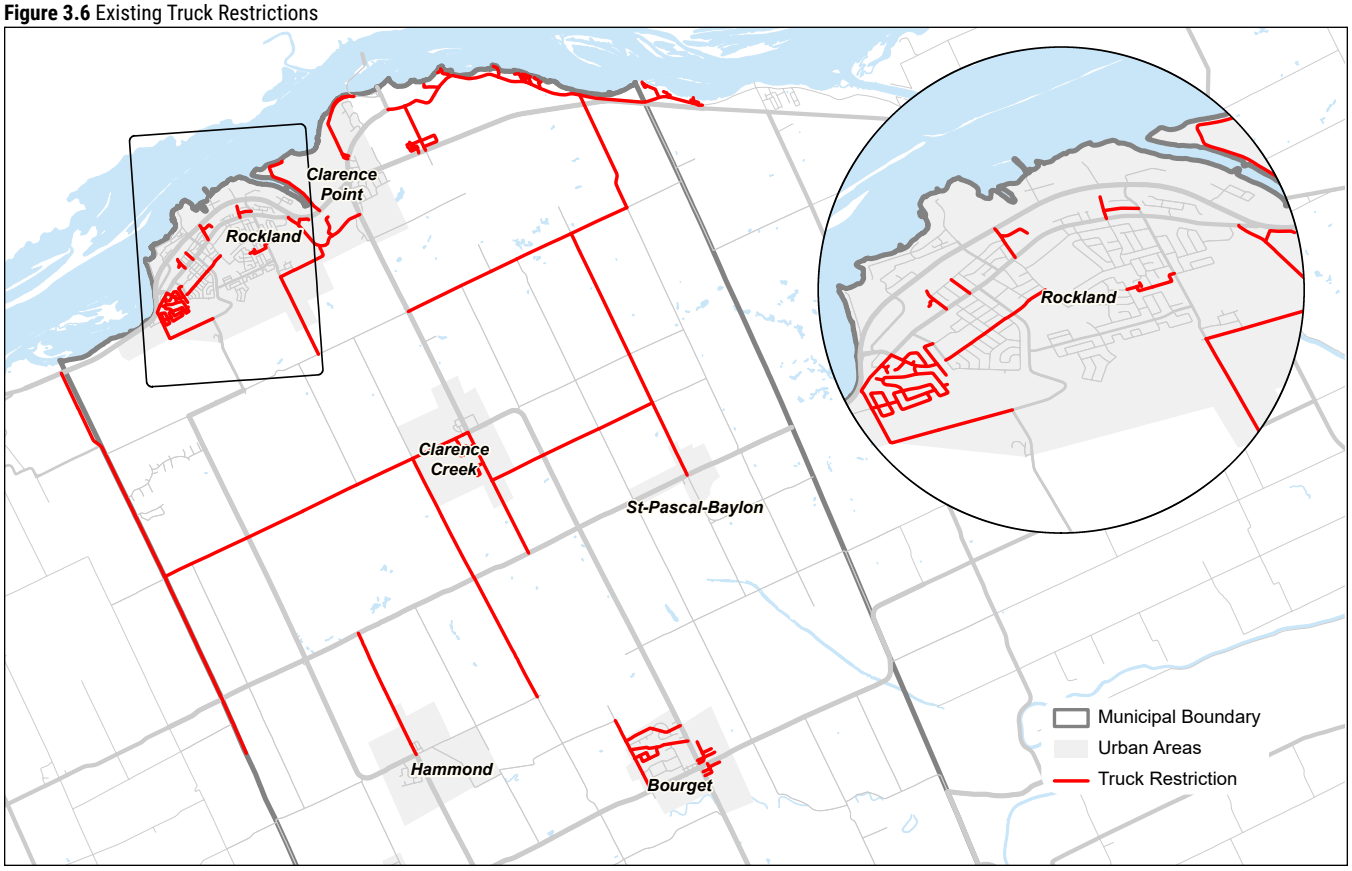


Figure 3.6 Existing Truck Restrictions



3.2.2 Commercial Vehicle Network

Commercial vehicles comprise an important component of the multimodal transportation network particularly with regards to employment and economic activity, however they also present several concerns regarding wear and tear on infrastructure and safety. Clarence-Rockland's road network generally allows trucks along arterial roadways with restrictions on certain collector and local roadways as shown in **Figure 3.6**. These restrictions generally allow for the movement of trucks through the city via high-volume corridors.

While the City of Clarence-Rockland currently does not have an oversized load permit system, the United Counties of Prescott & Russell have a permit requirement for oversized loads that exceed the dimensions and/or weight prescribed in the Highway Traffic Act on County Roads. This permit costs $200 and requires a private escort to lead and follow vehicles. Oversize loads put physical strain on roadway infrastructure and require routes that can physically accommodate such loads.

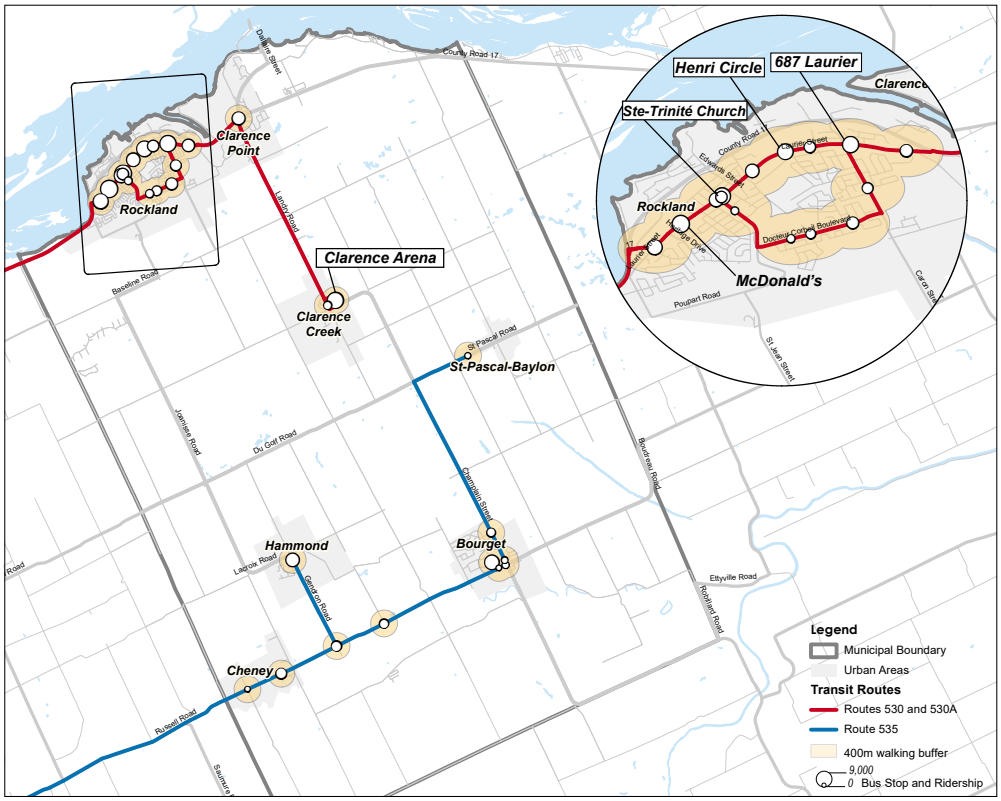
3.2.3 Transit Service

The City of Clarence-Rockland introduced a commuter transit service to the City of Ottawa in 2003, later expanded to two routes. The CR Transpo service was partially subsidized by the City and run by a private bus company, Leduc Bus Lines. The service was suspended due to a combination of pandemic restrictions and low demand. As of 2023, no date for a return to service has been set.

Route 530 provided service from Clarence Creek, Clarence Point and Rockland to stops in Ottawa along Highway 174 and Downtown, as well as one stop in Gatineau running between 8 and 11 times per day, depending on the time of year (see **Figure 3.7**). The second route, Route 535, served the communities of St. Pascal-Baylon, Hammond, Cheney and Bourget, providing commuter connections to Downtown Ottawa and one stop in Gatineau. Route 535 operated two to three times per day depending upon the time of year. Neither route provided an internal connection between Rockland and the southern settlement areas, which limited the usefulness of the transit service to external commuter travel between Clarence-Rockland and Ottawa-Gatineau. While operating, the bulk of fixed-route ridership was based at stops along Laurier Street and at the Clarence Arena in Clarence Creek, many of which were Park-and-Ride stops.

The United Counties of Prescott and Russell also previously operated a now permanently suspended intermunicipal transit service. PR Transpo was a pilot project launched by the Counties in 2018 with financial support from the Community Transportation Grant Program. The pilot, launched to determine the feasibility of rural area service, initially took the form of traditional fixed-route service, but was transitioned to an on-demand format in June 2021 before suspension of service at the end of December 2022. Prescott-Russell retains its non-emergency medical transportation service, offered in partnership with Carefor Health & Community Services.

Figure 3.7 Former CR Transpo Routes with Stops and Walking Buffers



3.2.4 Active Transportation

The urban form and layout of the road network within Rockland follows a suburban form with smaller pockets of a grid network, particularly closer to Laurier Street. The impacts of this form of road network creates large circuitous blocks that often require pedestrians to walk further to access activity centres. This can be seen in the wire diagram depicted in **Figure 3.8** that shows large blocks south of Laurier Street that are often a result of schools and their associated sport facilities and yards. Large gaps also exist between County Road 17 and Laurier Street that separate residential and commerical/recreation areas.

Figure 3.8 Rockland Road Network Wire Diagram

The existing pedestrian network is comprised of a mixture of sidewalks and multi-use trails primarily focused on providing links between schools and local residential neighbourhoods. Pedestrian sidewalks are only found within Clarence-Rockland's urbanized areas, the majority of which are found within Rockland as shown in **Figure 3.9**.

Most sidewalk pathways create a connected network with crossing points via signalized intersections, all-way stops, and mid-block crossings along major roadways. Mutli-use trails or connecting paths within Rockland, generally of short length, close some of the connectivity gaps described above. While the number of crosswalks has increased since 2019, crosswalks at most major intersections are faded, compromising pedestrian visbility and leaving the management of pedestrian-vehicle conflict solely to traffic control devices.

Clarence-Rockland's wider cycling network is primarily comprised of paved shoulders and the Prescott-Russell Multi-Use Trail, which passes through the Hammond and Bourget settlement areas. Sections of multi-use paths also exist in Rockland, most notably along Caron Street through Rockland East and a newly constructed pathway along St. Jean Street. Smaller sections of painted bicycle lanes have been implemented on Docteur Corbeil Boulevard, Saint Joseph Street, and Chamberland Street as shown in **Figure 3.10**. The previously mentioned short connecting paths play a key role shortening cycling distance as lower-stress streets connect to higher order bicycle facilities.

The 2018 Commuter Cycling Plan for the United Counties of Prescott & Russell identified county roads within Clarence-Rockland envisioned to have paved shoulders added to the roadway at the next reconstruction. Most have since been implemented and reflected in **Figure 3.10** with the exception of a small stretch of Champlain Road (County Road 8) south of the Village of Bourget, a section of Russell Road (County Road 2) east of Johnston Road, and Joanisse Road (County Road 21) from Baseline Road south to the existing paved shoulders beginning 1.5 km north of Lacroix Road. The new paved shoulders provide internal cycling connections within between the settlement areas, as well as connect to the broader county and Ottawa cycling networks.

Figure 3.9 Existing Pedestrian Facilities in Settlement Areas

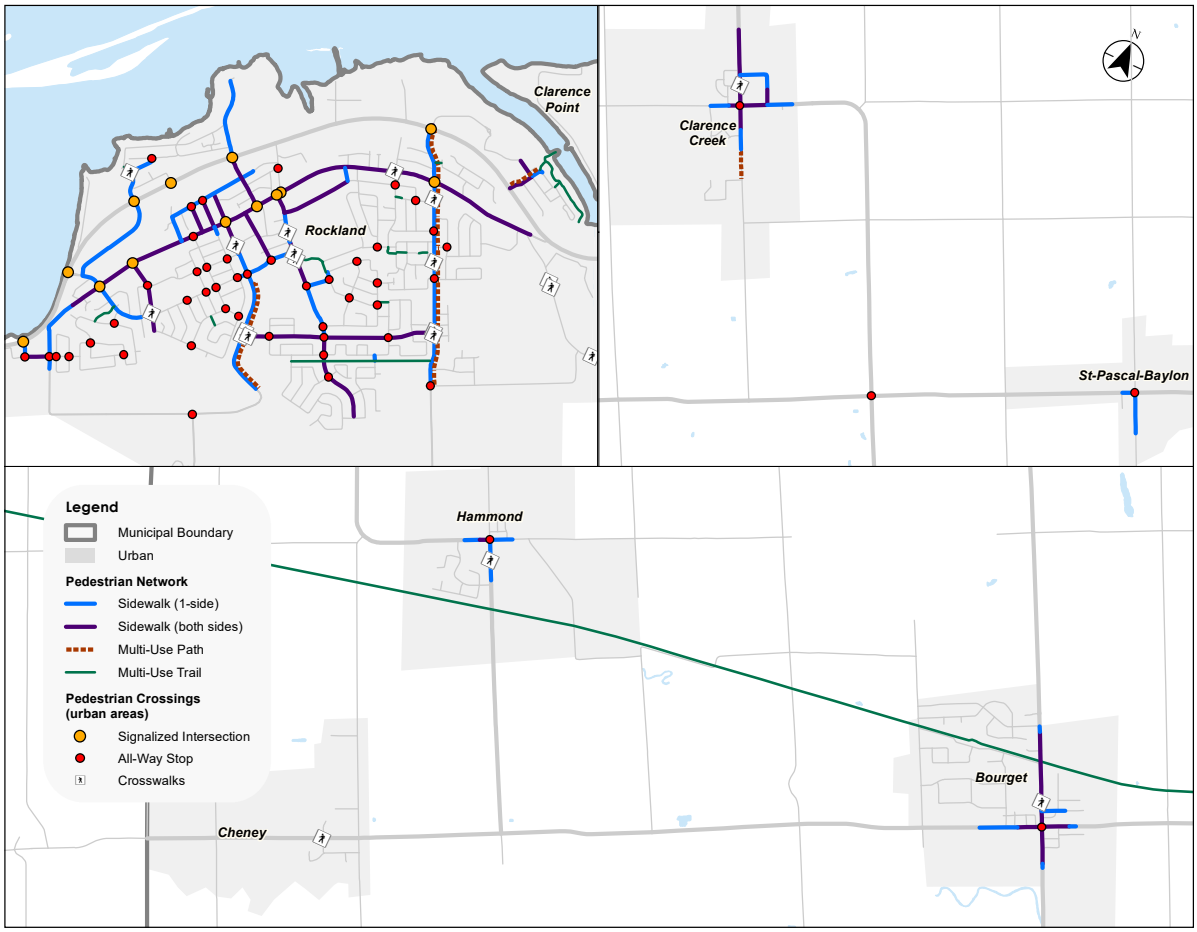
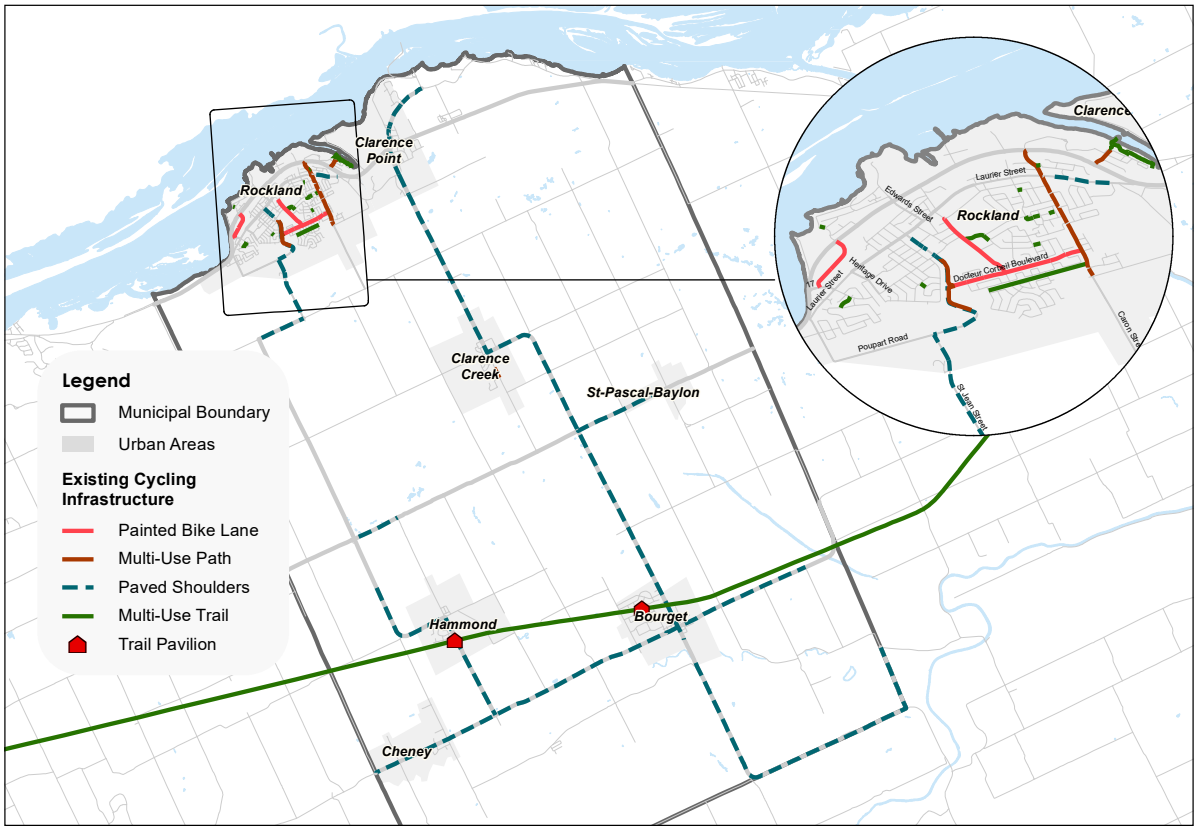


Figure 3.10 Existing Clarence-Rockland Cycling Network



3.3 Travel Characteristics

3.3.1 Commuter Flows

Clarence-Rockland is part of the Ottawa-Gatineau Census Metropolitan Area. As a result, a large percentage of the City's labour force commute to the National Capital Region for employment. While physical office locations in Ottawa and Gatineau still accounted for more than half of outbound commuter trips in 2021, the pandemic has affected lasting change to the traditional office employment arrangement. Nearly 3,000 fewer Clarence-Rockland residents commuted from the City in 2021 compared to 2016, a 39% reduction during that time frame that implies a great increase in telework opportunity.

Table 3.3 Geographic Distribution of Census employment to/from Clarence-Rockland

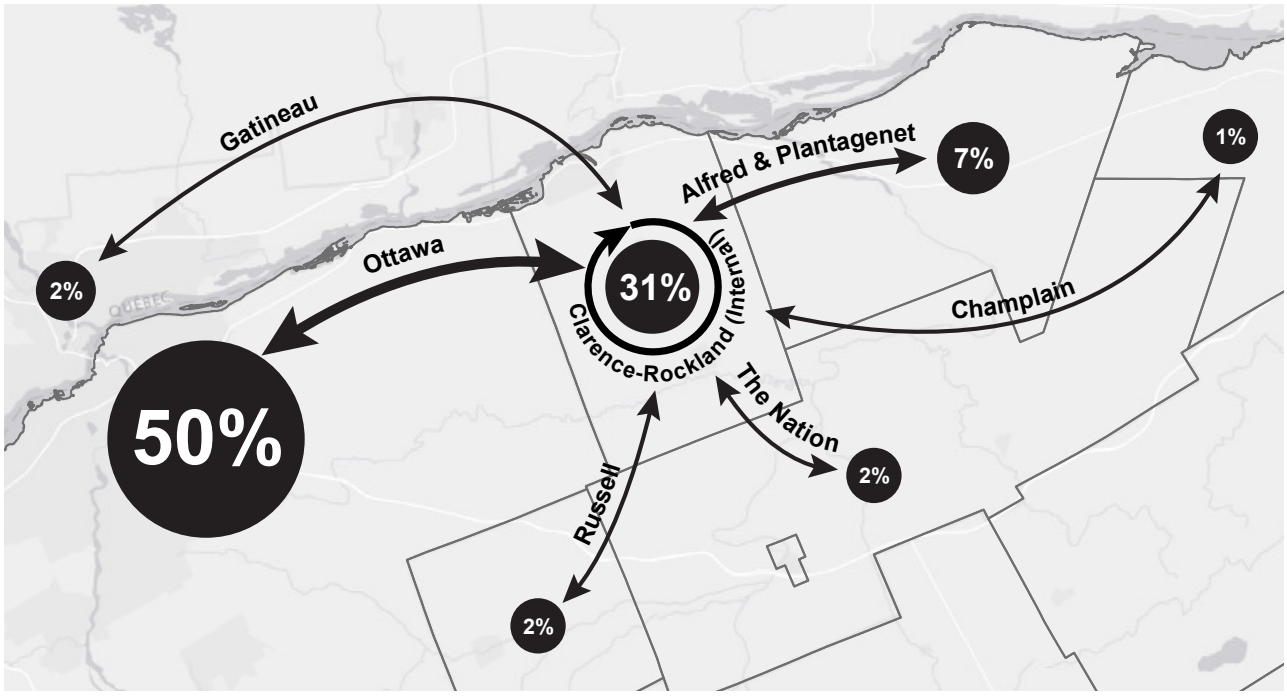
Municipality	C-R Residents employed	%	Change (2016-2021)	External Residents employed in C-R	%	Change (2016-2021)
Internal	2,655	37%	20	2655	65%	20
Ottawa	3,820	53%	(2,685)	570	14%	(50)
Gatineau	135	2%	(295)	45	1%	(40)
Alfred & Plantagenet	145	2%	10	450	11%	(195)
Russell	90	1%	(30)	45	1%	10
Hawkesbury	75	1%	10	40	1%	(10)
Champlain	60	1%	(15)	60	1%	15
The Nation	55	1%	(40)	150	4%	35
Other	230	3%	75	75	2%	35
Total	**7,265**		**(2,950)**	**4,090**		**(180)**

Source: Statistics Canada - Commuter Flows, 2021

In 2021, Clarence-Rockland was a commuting destination for approximately 1,400 people who live in surrounding areas to work in the City. This figure is also lower compared to 2016 data though represents a much smaller reduction percentage (4%). **Table 3.3** details the geographic distribution of the external population who work in Clarence-Rockland as well as the geographic distribution of where Clarence-Rockland residents work.

While still generally considered a bedroom community for Ottawa-Gatineau, that distinction is diminishing as the percentage of Clarence-Rockland residents physically working in those two municipalities has dropped from 68% to 55% in five years. Local residents make up a large majority of employees for local jobs compared to residents of nearby townships, highlighting that there is still a stronger employment pull out of Clarence-Rockland than into

Figure 3.11 Aggregated 2021 Census Commuter Flows to and from Clarence-Rockland



Clarence-Rockland. However, those living and working in Clarence-Rockland comprise the fastest growing commuter flow within the City, suggesting that internal circulation makes up a greater share of local vehicular traffic than in the past.

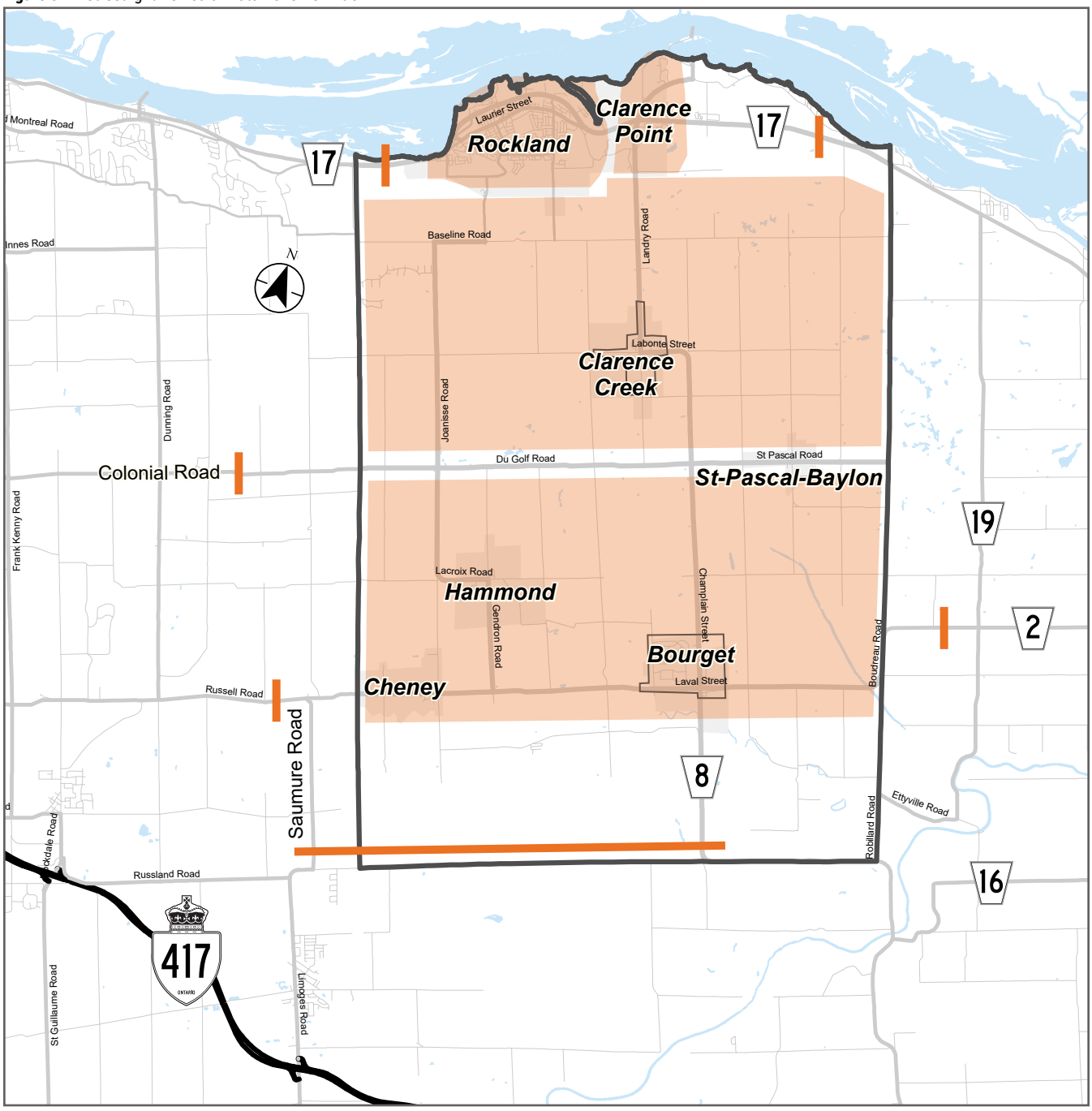
The aggregated commuter flows, including the distribution of where local residents work, and the distribution of where external residents who work in Clarence-Rockland come from, identifies an overall commuting trend where 52% of work-related trips are going to/from Ottawa-Gatineau, 31% live and work within Clarence-Rockland, and 17% of work-related commuter flows are associated with other surrounding areas as visualized in **Figure 3.11**.

3.3.2 Internal-External Automobile Travel

StreetLight Data representing all vehicle trips originating, ending, or passing through Clarence-Rockland strengthen the idea that an increasing amount of vehicular traffic both begins and ends its trip within the City as opposed to simply leaving Clarence-Rockland in the morning and returning during the evening hours.

StreetLight is a big data aggregation service geared toward transportation. Their analytic engine synthesizes hundreds of geolocation and observed data sources into travel patterns. The StreetLight user interface allows

Figure 3.12 Streetlight Vehicular Data Zone Definition



transportation planners to define zones in order to analyze traffic patterns circulating within and passing between each area, Additionally, virtual gates or traffic counters may be placed across select roadways to determine traffic counts, but with the added benefit of origin and destination information for trips passing through the gate.

Table 3.4 Average Daily Vehicle Trips within Clarence-Rockland

	Destination Zone/Gate						
Origin Zone	**Rockland**	**Clarence Point**	**Clarence Creek**	**Rural Clarence**	**Bourget**	**Rural Bourget**	**Total**
Rockland	15,713	846	275	754	463	876	**18,927**
Clarence Point	744	208	27	25	13	41	**1,058**
Clarence Creek	268	25	67	68	30	115	**573**
Rural Clarence Creek	765	27	61	339	45	97	**1,334**
Bourget	448	9	30	44	456	341	**1,328**
Rural Bourget	865	28	108	103	312	1,614	**3,030**
Total	**18,803**	**1,143**	**568**	**1,333**	**1,319**	**3,084**	**26,250**

Source: Streetlight Origin-Destination Data - September 1, 2021 to April 30, 2022

The definition of zones and gates to study general traffic patterns in Clarence-Rockland can be seen in **Figure 3.12**. A major single zone covering the population centre of Rockland was established, along with zones solely housing the settlement areas of Bourget, Clarence Creek, and Clarence Point. Additionally two larger zones were defined to capture acitivty originating in rural areas of the City. Gates were strategically placed to capture the majority of likely traffic in and out of Clarence-Rockland. Gates on Highway 17 capture the majority of east-west traffic entering and leaving the City while supplemental gates are placed on Colonial Road and Russell Road west of the City and on County Road 2 in the east. A large gate was drawn across the southern boundary of Clarence-Rockland that accounts for traffic headed to and from Highway 417 along County Road 8 and Saumure/ Limoges Road.

StreetLight Data yields interesting insights into circulation patterns within Clarence-Rockland. Trips between zones within the City make up more than 45 percent of the nearly 57,000 average daily trips originating in a defined zone or entering the City through a defined gate. **Table 3.4** tabulates the distribution of trips between defined City zones. More than half of this subset are trips originating and ending within the Rockland population centre. Overall, Rockland generates nearly three-quarters of all intra-city vehicle trips. Rockland is also the greatest attractor of trips originating in the Clarence Point, Clarence Creek settlement, and Clarence Creek rural zones.

The Rural Bourget zone, which includes the Hammond and Cheney settlement areas, but not the Village of Bourget itself generates the second largest — approximately 12% — amount of local trips, most again staying within that zone.

Nearly 13,000 trips destined for defined zones within Clarence-Rockland enter the City through a defined gate on an average day, the distribution of which is described in **Table 3.5**. Rockland is the destination of two-thirds of these trips, the vast majority of which utilize Highway 17 to access the City centre. Further, just under half of all externally-generated trips enter Clarence-Rockland via Highway 17 on the west side of Rockland, indicating that the majority of this traffic type remains inextricably linked to the Ottawa population and activity centre. Those coming from outside of Clarence-Rockland destined for Bourget or its surroundings most often make use of Russell Road.

Table 3.5 Average Daily Vehicle Trips originating outside and terminating in Clarence-Rockland

	Destination Zone/Gate						
Origin Zone	**Rockland**	**Clarence Point**	**Clarence Creek**	**Rural Clarence**	**Bourget**	**Rural Bourget**	**Total**
Highway 17 Eastbound	5,699	327	39	117	11	54	**6,247**
Colonial Rd Eastbound	175	25	63	165	85	729	**1,242**
Russell Road EB	60	5	7	45	503	935	**1,555**
Southern Access NB	176	46	21	69	126	73	**511**
County Rd 2 Westbound	31	1	14	12	213	215	**486**
Highway 17 Westbound	2,430	217	67	72	4	22	**2,812**
Total	**8,571**	**621**	**211**	**480**	**942**	**2,028**	**12,853**

Source: Streetlight Origin-Destination Data - September 1, 2021 to April 30, 2022

Table 3.6 Average Daily Vehicle Trips originating within and leaving Clarence-Rockland

	Destination Zone/Gate						
Origin Zone	**Highway 17 Westbound**	**Colonial Rd Westbound**	**Russell Rd Westbound**	**Southern Access SB**	**County Rd 2 Eastbound**	**Highway 17 Eastbound**	**Total**
Rockland	5,454	176	39	259	51	2,675	**8,654**
Clarence Point	336	35	3	48	3	220	**646**
Clarence Creek	49	38	6	20	19	76	**208**
Rural Clarence Creek	106	176	26	30	11	65	**414**
Bourget	12	42	480	146	274	2	**956**
Rural Bourget	41	576	998	62	227	24	**1,928**
Total	**5,998**	**1,043**	**1,552**	**565**	**585**	**3,063**	**12,806**

Source: Streetlight Origin-Destination Data - September 1, 2021 to April 30, 2022

Across the City, comparatively few trips coming to Clarence-Rockland from the outside utilize the wide Southern Access gate intended to capture traffic from any of three interchanges of Highway 417. Likewise, few trips entering the City do so from County Road 2. This indicates that the directness of Highway 17 to Clarence-Rockland from Hawkesbury and points east sufficiently overshadows travel speeds realized via the expressway and other routes.

A similar number of trips originate within the defined zones of Clarence-Rockland that leave the City via one of the defined gates as catalogued in **Table 3.6**. Once again, Rockland generates the supermajority of this class of trip and a similar proportion exits the City via Highway 17 west of the population centre, reinforcing the primary link to the National Capital Region. More than half of trips that originate in Bourget and the surrounding rural areas south of Chemin du Golf that leave Clarence-Rockland each day utilize Russell Road.

Only five percent of daily trips originating within and leaving Clarence-Rockland are generated by the mostly rural area between Rockland and Bourget centered on Clarence Creek.

Trips beginning in Clarence-Rockland destined for locales to the south and east make up less than one-third of all trips leaving the City. Of these trips, County Road 17 eastbound is the dominant route taken.

StreetLight's Top Routes feature analyzes vehicle volume along all roadways originating from a defined set of zones. **Figure 3.14** visualizes route choice of vehicular trips originating in the Rockland and Clarence Point evaluation zones. The graphics reinforce the emphasis on Highway 17 West as a critical transportation link for residents of Clarence-Rockland.

Trips originating, but not remaining within the rural area south of Rockland, including the Clarence Creek settlement area are displayed in **Figure 3.15**. While the diagram makes clear that Rockland and Ottawa are the destinations of most trips generated in this area, hundreds of trips per day from Clarence Creek and surrounding area make their way south along Champlain Road and west along Chemin du Golf.

Figure 3.14 All-Day Trips by Segment Originating in Rockland and Clarence Point

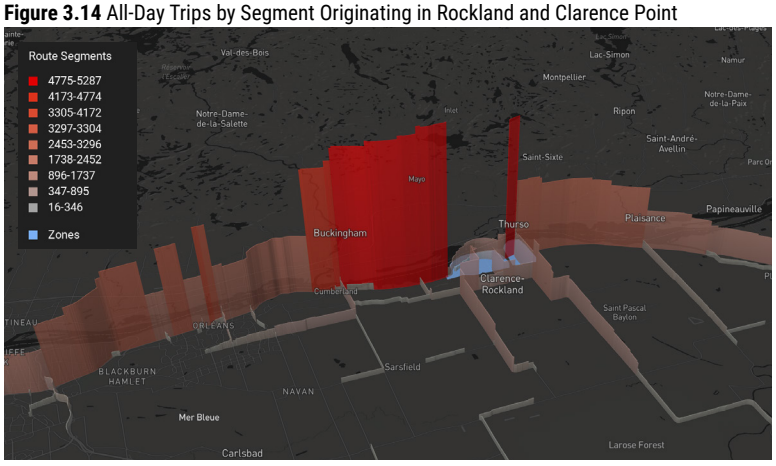
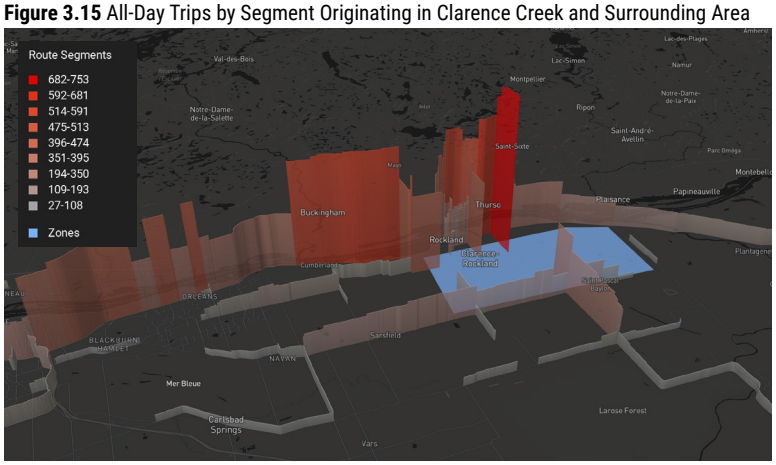
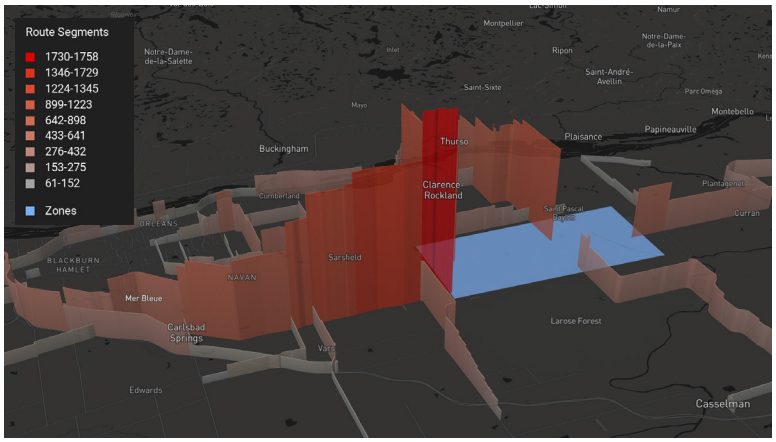


Figure 3.15 All-Day Trips by Segment Originating in Clarence Creek and Surrounding Area



Source: Streetlight Top Route Analysis - September 1, 2021 to April 30, 2022

Figure 3.16 All-Day Trips by Segment Originating in Bourget and Surrounding Area



Source: Streetlight Top Route Analysis - September 1, 2021 to April 30, 2022

Finally, a look at the southern area of the City, the Village of Bourget and surrounding rural areas to the north, west, and east in **Figure 3.16** reveals a significantly different pattern for accessing the National Capital Region. As previously observed in numeric terms in **Table 3.6**, travelers leaving from these areas exceedingly utilise Russell Road to reach Highway 417 and destinations to the west, including Ottawa. The trip volume starting in Bourget and its surroundings that travels west of the City each day is roughly equivalent to one-third of that carried by HIghway 17 west from Rockland.

Figure 3.17 Weekday AM Peak Period Trip Volumes Generated by All Zones

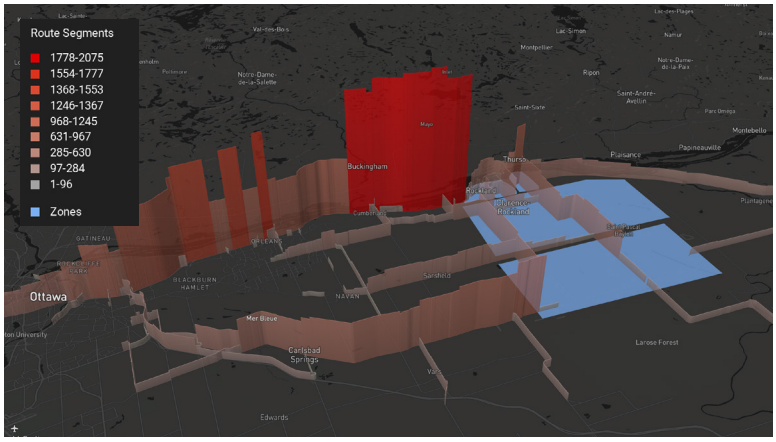
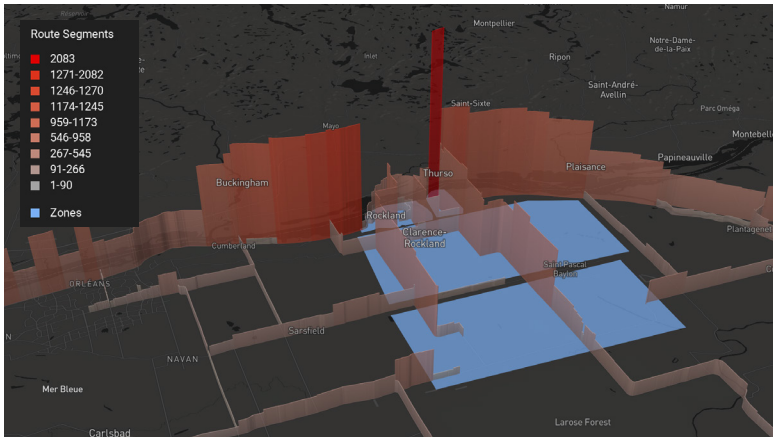


Figure 3.18 Weekday PM Peak Period Trip Volumes Generated by All Zones



Source: Streetlight Top Route Analysis - September 1, 2021 to April 30, 2022

3.3.3 Weekday Peak Period Trip Analysis

Figures 3.17 and **3.18** show the 2018 peak period volumes during the AM (6 a.m. to 10 a.m.) and PM (3 p.m. to 7 p.m.) for major corridors within Clarence-Rockland. Aligning with trip distribution data, large volumes of traffic use County Road 17 and Russell Road to travel between the National Capital Region and Clarence-Rockland, as well as service pass-through trip demand from places east of Clarence-Rockland, such as other municipalities within the United Counties of Prescott & Russell. During the PM peak hour specifically, trips beginning in Clarence-Rockland are equally likely to travel east on County Road 17 toward Alfred and Plantagenet as travel west toward Ottawa. This is consistent with commuter flow data from Statistics Canada. There is also some notable traffic volume that utilizes the north-south corridors of Joanisse Road and Champlain Road connecting the City's settlement areas.

Calibrated peak hour volumes on County Road 17 west of Carmen Bergeron Street are substantial with peak directional volumes fluctuating between 778-954 vehicles an hour, suggesting that post-pandemic travel volumes have not yet completely risen to levels experienced prior to 2020. Typically, when a roadway's peak volumes begin reaching between 800-1,000 vehicles an hour the roadway is monitored for the potential need for widening. This, however, is contingent on operations along the corridor. A summary of traffic volumes at key locations, as determined via StreetLight Data at defined data gates, are summarised in **Table 3.8**.

3.3.4 Active Transportation Activity Analysis

It is also important to understand the amount of daily non-motorized transportation activity in the community. While travel distances are certain to be shorter on foot or by bike as opposed to by car, resulting in less inter-zone travel, the amount of alternate mode transportation defines level of need for those users as well as an inclination toward transit use. The investigation into active transportation modes required a redefintion of analysis zones (**Figure 3.19**) focused on the more densely populated areas at the north end of the City. Rockland was separated into two zones for this purpose, divided by the major neighbourhood breaks created by the cluster of schools, community centres, and their associated fields and natural areas.

As expected the vast majority of active transportation trips are short and remain within their zones of origin. Roughly 12,000 pedestrian trips are made within Rockland and Clarence Point on an average day. When considering this total, and comparing it to the roughly 16,000 intrazone vehicular trips, it is important to remember that vehicle trips also begin and end with pedestrian trips. Of the nearly 7,800 trips originating in the Rockland West zone, 93% also terminate within that zone with the remainder terminating in Rockland East. Likewise, 84% of more than 3,800 pedestrian trips starting in the Rockland East zone stay within that zone. Pedestrian volumes are relatively low in the Clarence Point settlement area — approximately 425 daily. Nearly all remain within that analysis zone.

Individual travels classified as cycling trips by StreetLight exhibit a greater propensity to cross between zones as the use of a bicycle generally increases range by a factor of four compared to pedestrian trips of the same time duration. The destination zones of bicycle trips originating in the western zone of Rockland are split 76%-24% between trips that do not leave the zone and those that terminate in Rockland East. That distribution drops to 56%-44% for bicycle trips beginning and ending in Rockland East versus those that end in Rockland West.

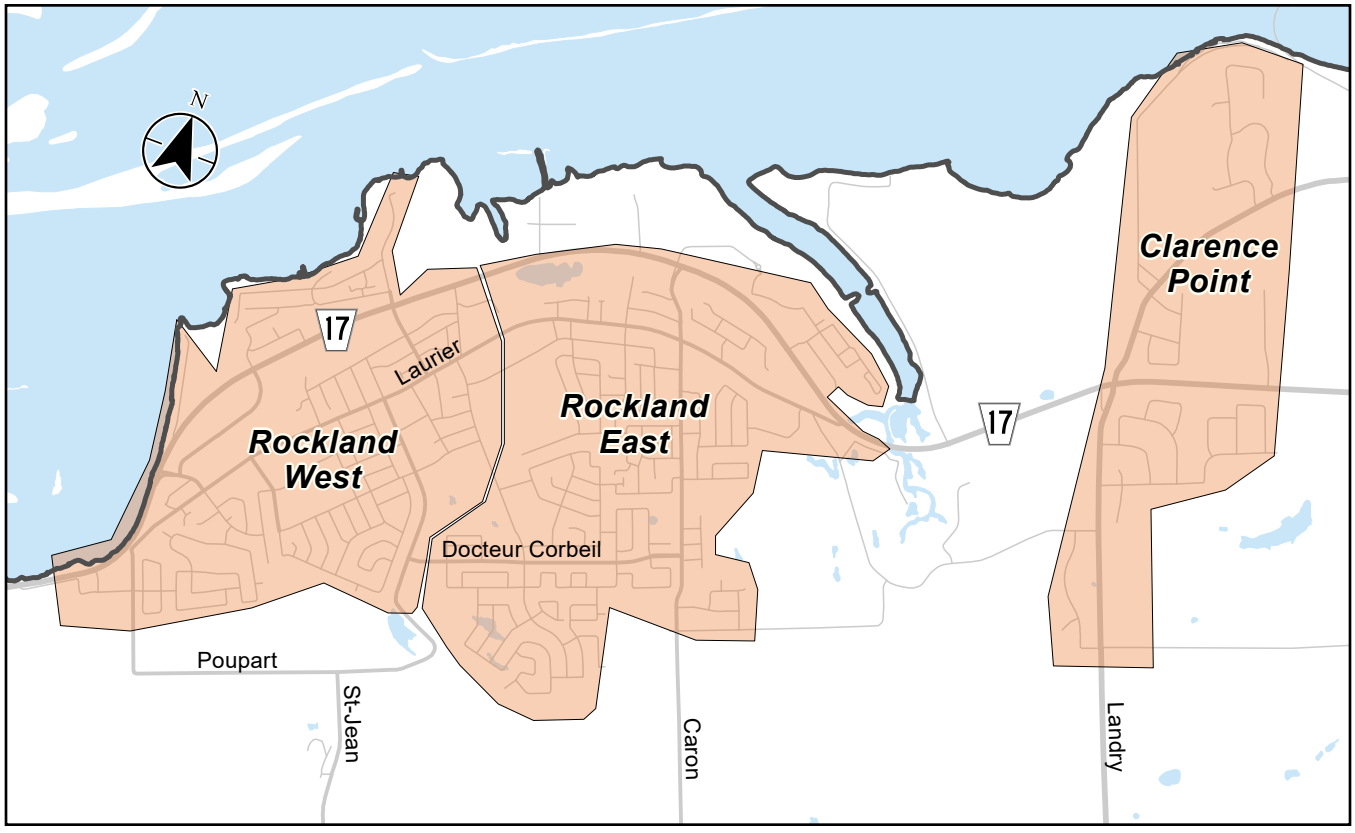
Table 3.8 Weekday AM and PM Peak Hour Roadway Volumes by Direction

Location	Direction	Peak Volume	
		AM	PM
County Road 17 West of Carmen Bergeron Street	Eastbound	310	954
	Westbound	778	482
Colonial Road West of Lafleur Road	Eastbound	44	312
	Westbound	209	123
Russell Road West of Samure Road	Eastbound	63	366
	Westbound	339	119
Saumure Road + County Road 8 North of southern City limit	Northbound	64	79
	Southbound	39	86
County Road 2 West of County Road 19	Eastbound	34	123
	Westbound	107	54
County Road 17 West of Rollin Road	Eastbound	133	538
	Westbound	383	320

Source: Streetlight Origin-Destination Data - September 1, 2021 to April 30, 2022

The Active Transportation data demonstrates a significant level of non-motorized transportation activity in the Rockland urbanized area. Trip distribution levels indicate that commercial services located in the western half of Rockland act as an attractor for local trips and that localized on-demand transit services could supplement this activity, especially in winter months.

Figure 3.19 Streetlight Bicycle and Pedestrian Zone Definition



4.0 Future Conditions

4.1 Historic and Future Growth

In the ten-year period between 2011 and 2021, Clarence-Rockland experienced an annual population growth rate of 1.3% adding approximately 3,300 new residents and accounting for roughly one-third of all growth in the United Counties of Prescott & Russell (UCPR). One of the main reasons for this growth is likely the City's proximity to the National Capital Region, attracting people that prefer a suburban or rural residential setting at a fraction of the cost but still within a reasonable travel distance to the employment opportunities in the NCR. **Table 4.1** shows the historic growth in population in Clarence-Rockland and the surrounding regions.

Table 4.1 Historical Population Growth | 2011-2021

Jurisdiction	2011	2016	2021	Annual Growth (%)
Clarence-Rockland	23,185	24,512	26,505	1.3%
UCPR	85,381	89,333	95,639	1.1%
Ottawa-Gatineau	1,254,919	1,323,783	1,488,307	1.7%

Source: Statistics Canada - Community Profile, 2011, 2016, 2021

The majority of population growth within Clarence-Rockland has been focused in the urban settlement of Rockland which saw an increase of over 2,500 people between 2011 and 2021, accounting for over three-quarters of all population growth in the City during this period as shown in **Table 4.2**.

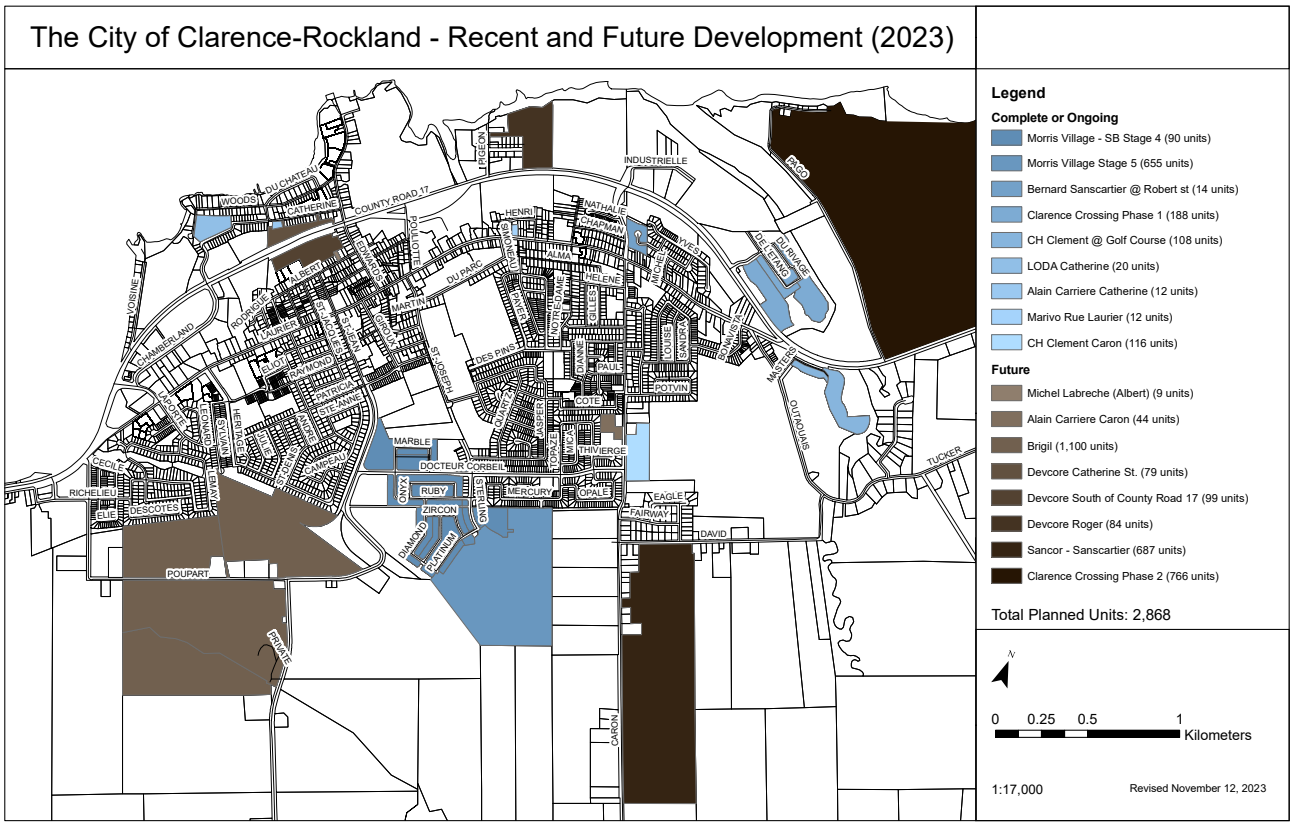
Table 4.2 Historical Population Growth in Clarence-Rockland | 2011-2021

Community	2011	2016	2021	Difference
Rockland	11,099	12,302	13,625	2,526
Bourget	1,080	1,169	1,175	95
Other Areas	11,006	11,041	11,705	699
Total	**23,185**	**24,512**	**26,505**	**3,320**

Source: Statistics Canada - Community Profile, 2011, 2016, 2021

Per the recently updated County Growth Management Strategy, Clarence-Rockland is forecast to experience a 21.6% increase in population over 2021 levels by the year 2036, which would correspond to a total population of approximately 32,230. The prediction of 5,725 additional residents is tempered compared to the forecasts included in

Figure 4.1 Planned and Ongoing Developments in Rockland



Source: City of Clarence-Rockland On-going development 2018 to beyond 2020

the 2019 MMTMP, which saw the City exceeding that resident count by 2031.

In the four years since the release of the MMTMP, many envisioned developments have been constructed, some remain in the pipeline, and other new projects have been added to the anticipated unit count. Over 2,000 units have been constructed or are nearing completion as shown in shades of blue in Figure 4.1. This added population is indicative of strains on the current transportation system that have already been realized over a short period. Several very large development projects remain on the horizon, shaded in brown on the map, totaling over 2,800 additional units that will place further demands on the future transportation system.

Per the recently updated County Growth Management Strategy, most of the growth (73%) in the City is planned to be accommodated through low-rise singles, semis and rowhouses. However, apartments, which can be integrated into mixed-use development, are also anticipated to be a large contributor to the growth of housing units as summarized in **Table 4.3**. Mixed-use developments present an opportunity to bring a mixture of land uses and development types together to promote higher densities, transit-oriented, active transportation, as well as live/work opportunities.

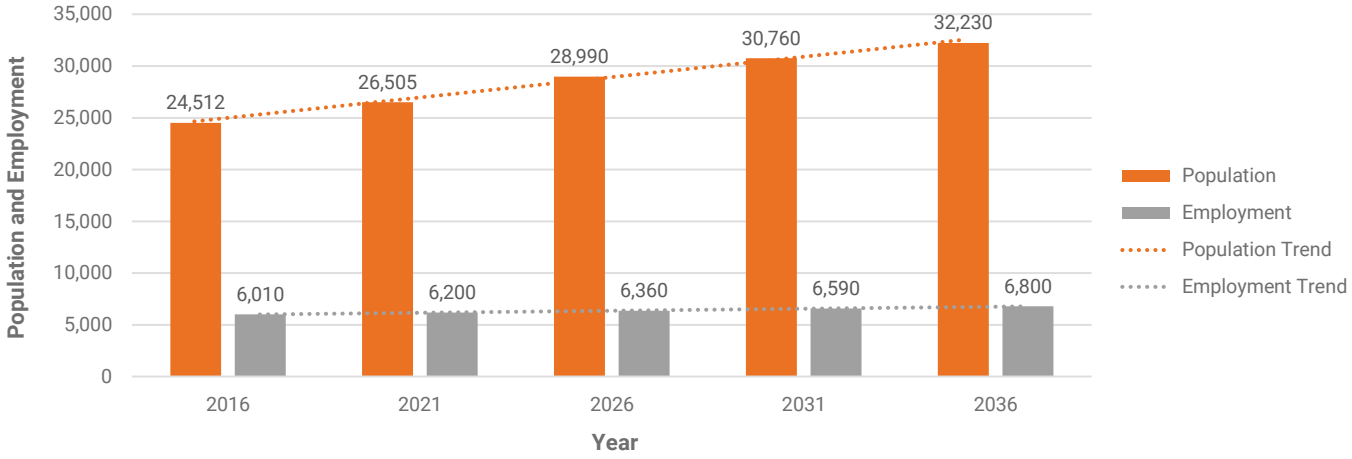
Despite notable growth in population, employment located within the City is expected to grow at a significantly lower rate as visualized in **Figure 4.2** Clarence-Rockland is expected to add approximately 600 new jobs over existing levels by 2036. According to updated poulation, housing, and employment projections for the City of Ottawa, over 100,000 new employment opportunities are expected to be created during that same time frame. If realized, the increased employment pull of the NCR will further the two-way co-dependence of Clarence-Rockland residents seeking to fill those positions and those hired seeking lower-priced housing within commuting distance of Ottawa.

Table 4.3 Forecasted Housing Development in Clarence-Rockland | 2021-2036

	Singles & Semis	Rows	Apts	Total
2021-2026	580	160	280	**1,020**
2026-2031	490	160	220	**870**
2031-2036	380	150	200	**730**
Total	**1450**	**470**	**700**	**2,620**
	55%	**18%**	**27%**	

Source: United Counties of Prescott & Russell - Growth Management Strategy Update, 2022

Figure 4.2 Projected Population & Employment forecasts in Clarence-Rockland by 2036



Source: Statistics Canada - Community Profile, 2016, 2021 | United Counties of Prescott & Russell - Growth Management Strategy Update, 2022

4.2 Planned Network Improvements

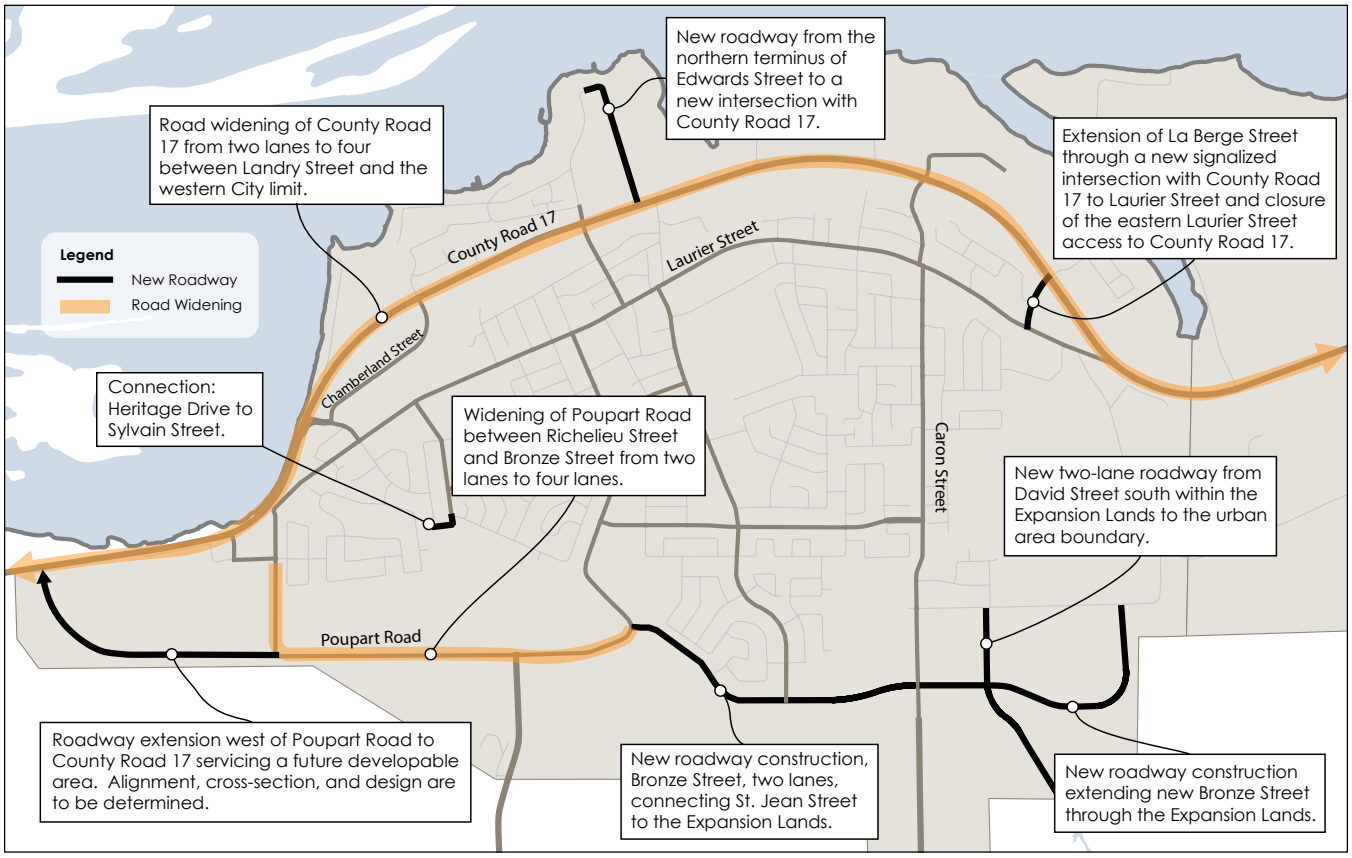
Previously planned transportation improvements from environmental asssessments, secondary plans, and transportation impact studies consolidated in the latest version of the official plan are anticipated to address many of the operational impacts that are identified in the "Do Nothing" scenario including:

- Road widening of County Road 17 from two lanes to four between Landry Street and the western City limit. This will include a multi-use path on the south side of the roadway within the Urban Area as well as paved shoulders east and west of Rockland.

- New roadway construction, Bronze Street, two lanes, connecting St. Jean Street to the Expansion Lands through the Morris Village development. Will include a multiuse pathway on the north side of the roadway and a pedestrian sidewalk on the south side.
- Widening of Poupart Road between Richelieu Street and Bronze Street from two lanes to four lanes. Will include a multi-use pathway on the north side of the roadway.
- New roadway construction connecting Heritage Drive to Sylvain Street at the current southern terminus of each.
- New roadway construction from the northern terminus of Edwards Street to the southeast to a new intersection with County Road 17.
- New roadway construction including sidewalks and painted bike lanes that extends La Berge Street through a new signalized intersection with County Road 17 to Laurier Street. The eastern access to County Road 17 would be closed. Existing stop-control would be replaced with a signalized intersection.
- New roadway construction extending the Morris Village Bronze Street through the Expansion Lands with sidewalks and on-street bicycle lanes between Caron Street and David Street.
- New two-lane roadway construction from David Street south within the Expansion Lands to the urban area boundary.
- Roadway extension west of Poupart Road to County Road 17 servicing a future developable area. Alignment, cross-section, and design are to be determined, but should provide for active transportation users.
- New roundabout intersection control at the intersections of Poupart Road/St. Jean Street, Poupart Road/New West Roadway, and St. Jean Street/Docteur Corbeil Boulevard.
- Intersection control upgrade at Richelieu Street and Poupart Road from existing stop control to a signalized intersection.

Right-of-way creation and modifications are spatially visualized in **Figure 4.6**.

Figure 4.6 Summary of Previously Planned Improvements



Source: Official Plan of the Urban Area of the City of Clarence-Rockland

5.0 Engagement

5.1 Consultation

A consultation program was developed as part of the Master Planning Process, in alignment with Approach #1 of the Municipal Class Environmental Assessment (MCEA), as outlined in Appendix 4 of the October 2000 version (amended in 2007, 2011, 2015, and 2023). This program ensures that the Multimodal Transportation Master Plan Amendment effectively addresses Phases 1 and 2 of the MCEA process. The consultation process engaged a variety of stakeholders, including local residents, municipal staff, and relevant agencies, ensuring that all perspectives were considered. This collaborative approach helps to inform decision-making and align transportation planning with the needs and priorities of the community.

5.1.1 Notice of Study Commencement and Public Meeting

The Notice of Study Commencement and Public Meeting for the Transportation Master Plan was issued via e-mail to agencies, interested persons and groups, and First Nations on February 7, 2025. Advertisements were published in the ***Vision*** newspaper on February 19, 2025 and February 24, 2025. The City also posted the notice on the project website (https://www.clarence-rockland.com/en/hotel-de-ville/transportation-master-plan.aspx#Transportation-Master-Plan-2025) on February 5, 2025. The notice announced the study and its MCEA approach, provided the dates and times for the two public meetings, and informed stakeholders, First Nations, and the public about the purpose and format of the meetings. It also included a link to additional information, including study team member contact information, at the project website.

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

Table 5.1 Consultation Notification

Distribution Method	Date of Distribution
E-mail electronic copy to study mailing list	February 7, 2025 and February 25, 2025
Published on City website	February 5, 2025
Published locally (Vision newspaper)	February 19, 2025 and February 24, 2025

5.2 Public Meetings

As part of the consultation program, two public meetings were planned. The public meetings aimed to present the study process and gather feedback on its goals and objectives. Discussion covered existing travel conditions and community characteristics, sought community input on transportation infrastructure in the City, shared suggestions from the project team, and outlined the next steps in the master planning process.

5.2.1 Online Meeting

City staff and the study team hosted a live virtual public meeting, attended by seven (7) participants on March 5, 2025. A question and answer period took place at the end of the meeting where interested individuals could pose written or verbal questions to the technical project team. Additionally, participants were directed to comment forms on the City's website where interested persons could submit their input and feedback whether related to challenges and opportunities identified for the MMTMP, evaluation criteria, proposed solutions, or general comments. Online public meeting participants were also encouraged to submit comments, either using the online comment forms, or by email, by March 26, 2025.

5.2.2 In-Person Meeting

City staff also held an in-person public meeting on March 6, 2025 at 1535 Avenue du Parc in Rockland. Nine (9) participants attended and engaged with staff and the project team as they reviewed printed English and French versions of the public meeting displays. Comment forms were printed and available at the in-person public meeting and could be submitted to the project team. Interested individuals were encouraged to contact the project team outside of the meeting via e-mail to ask questions and/or share any ideas with respect to the study. Public meeting participants were also encouraged to submit their comments by March 26, 2025.

5.3 Participation

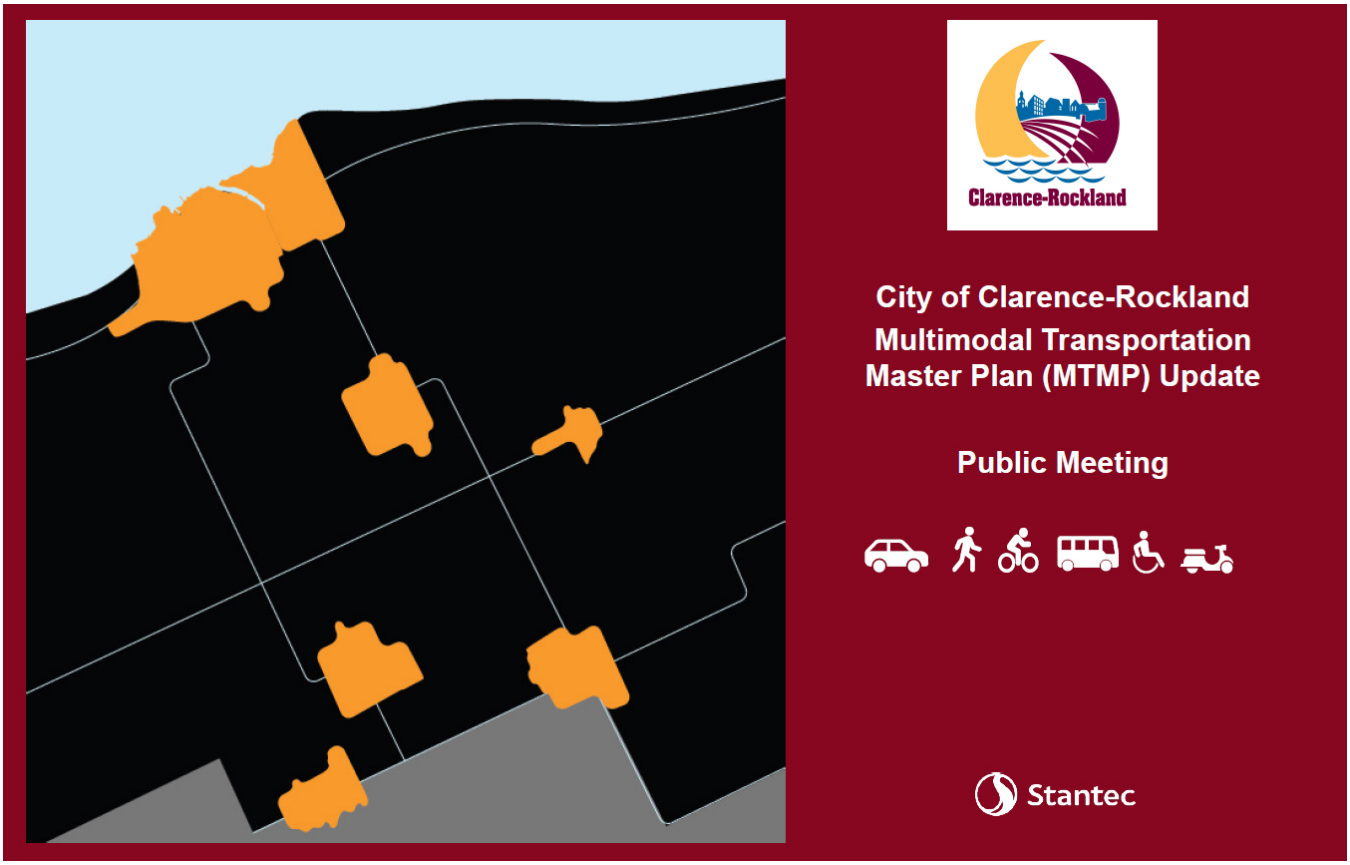
The study team received two (2) completed comment forms. Comments submitted via email and discussion at the online public meeting identified the following themes:

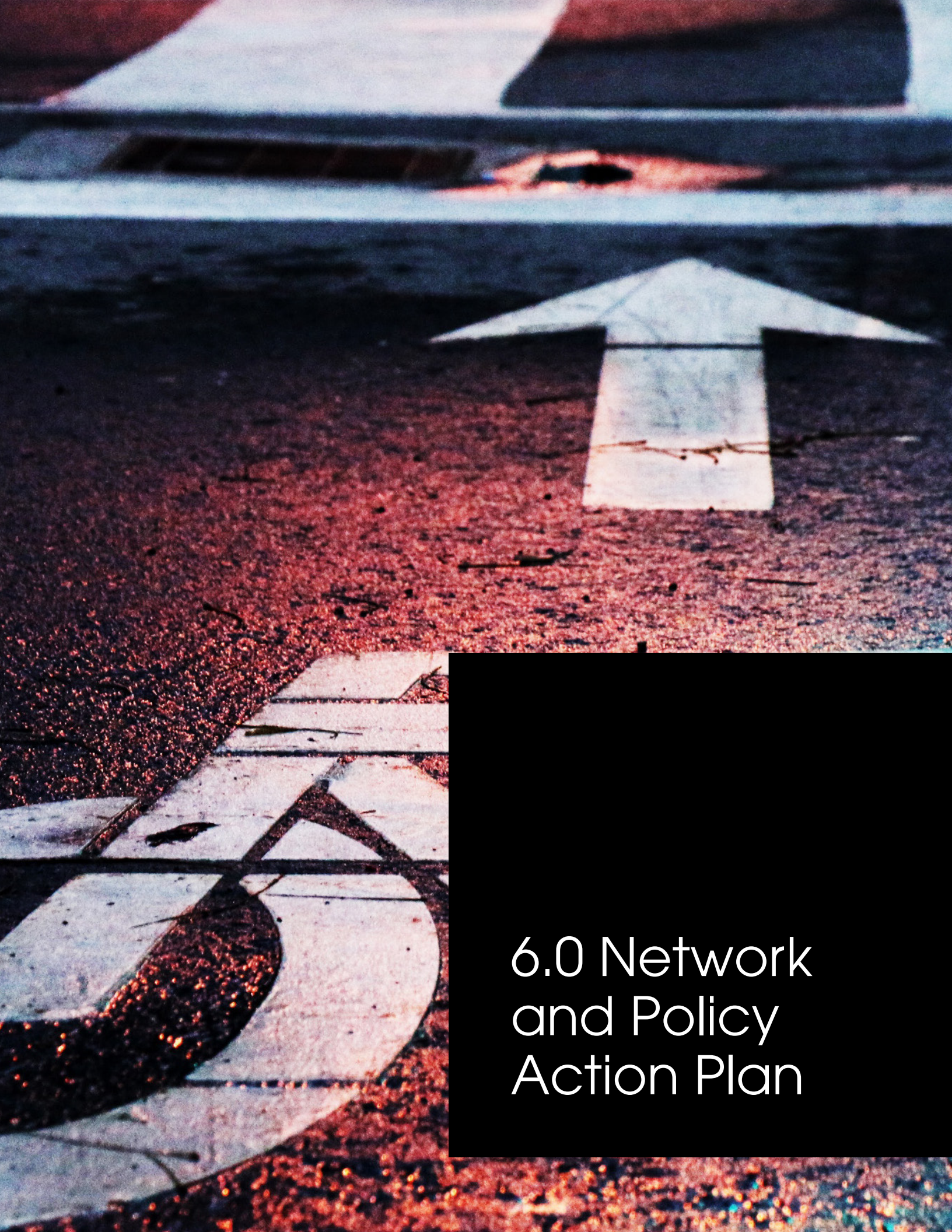
- A need for passing lanes and carpool lots along roadways near Bourget
- Safety concerns related to a need to add lanes to County Road 17
- Request for additional and connected multi-use paths

Appendix C contains a summary table of all received comments.

5.4 Notice of Master Plan

In accordance with the requirements of the Municipal Class Environmental Assessment process, Approach 1, the Multimodal Transportation Master Plan amendment has been completed, which identifies an updated strategic, long-term framework for addressing current and future transportation needs. With the completion of this study, a Notice of Master Plan has been issued, and the MMTMP report is available for public review for a period of 30 calendar days. During this time, stakeholders and members of the public are encouraged to review the document and provide comments or questions related to recommendations and conclusions.





6.0 Network and Policy Action Plan

6.1 Emerging Issues and Opportunities

In planning for the future of the local transportation system as well as immediate capital improvements, the City of Clarence-Rockland's resources are limited. The identified Emerging Issues and Opportunities are intended to guide capital investment and programmatic activities. The manner in which people access and use the transportation system in any locale has been altered by effects of the recent pandemic. While the City cannot plan for all unforeseen future risks, modifications made today will remain part of the transportation system for many years and must be resilient while providing equitable access and mobility options for all users. The needs and opportunities from the 2019 MMTMP have been reassessed against the 2023 analysis of current and future conditions and recharacterized to inform updated recommendations.

6.1.1 Service of New Development

Land use and transportation are inextricably linked. While land development dictates transportation needs, it is also informed by available transportation infrastructure options. Investment trends as well as municipal land use policy and planning reflect that residential development in Clarence-Rockland is on a trajectory toward greater density, which provides both the need and opportunity to incorporate a complete set of transportation infrastructure into new subdivisions.

Subdivision and site plan design guidelines currently cite the Official Plan with respect to the provision of sidewalks. Additional wording can be considered to incorporate facilities for other transportation modes, most commonly cycling, into non-local streets at the outset of new neighbourhood construction.

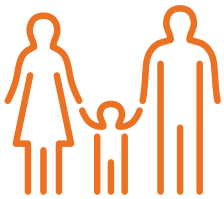
The theme of servicing new land development is an overarching topic that inclusively integrates the potential actions addressing many of the following issues.

6.1.2 Shifting Travel Patterns

Recent commuter flow and vehicular trip data shows that there has been a shift in travel patterns since the creation of the previous MMTMP. The absolute number of residents commuting from the City has decreased at the same time as the proportion of internal versus external commuter trips has significantly changed. Coupled with a realization that nearly half of all vehicular trips stay within the municipal boundary, these findings suggest that a combination of an increased aging population and a greater adoption of telework accelerated by pandemic-era public health requirements have created a new transportation environment that features shorter trips.

Providing suitable infrastructure to match current and future transportation trends is essential to the local multimodal system. An opportunity exists to tailor the system more appropriately to the forecasted increasing older population as well as those travelling locally for shorter distances. As development results in the availability of more services within Clarence-Rockland, a comprehensive set of mobility solutions considering the needs of motorists, pedestrians, cyclists, and potential transit users should be considered to enhance convenience of access while responding to paradigm changes and user preferences.

6.1.3 Neighborhood Internal Active Transportation Connectivity



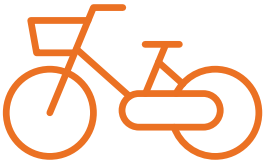
Clarence-Rockland has made recent progress in ensuring that north-south collectors such as St-Jean, St-Joseph/Sterling, and Caron Streets are appointed with active transportation facilities of significant length and a number of crossing enhancements and traffic controls. These facilities however, are generally located along the edges of major neighborhoods and concentrations of community facilities. Additionally, limited pedestrian and bicycle infrastructure in hamlet areas highlights a lack of accessible connections outside of Rockland for active transportation users.

Non-motorized trip data suggests that pedestrian movements within Rockland are largely localized within single residential and commercial areas while cyclists exhibit a desire to cross town, consistent with the expectation of the bicycle as a range extender.

An opportunity exists to add dedicated pedestrian and bicycle infrastructure to encourage internal mobility and connectivity within and across neighbourhoods. East-west multi-use path links within the primary legacy residential areas of Rockland would enhance safety while improving access and promoting greater use of the City's recent investments in a more robust active transportation network.

Similarly, there is an opportunity to prioritize walkability in smaller settlement areas by implementing sidewalks along select facilities throughout new subdivisions to encourage and protect pedestrian movement.

6.1.4 Safe Facilities for Longer Bicycle Trips



Despite recent efforts, the vehicular network continues to dominate as a transportation choice for travelling intermediate distances. Likewise, the network of rural county roads with paved shoulders that accommodate cycling trips outside of Rockland has been greatly expanded, but does not connect to the defined urban area or any of its separated cycling facilities.

An opportunity remains to identify and develop a cycling network that connects trip generators such as community facilities, employment, and residential areas. Within Rockland, a need for an inter-district east-west bicycle corridor persists. Outside of Rockland, enhancement to parts of reletively few roadways can have outsized implications in completing a rural cycling network that provides direct routes to and from all settlement areas.

Facility selection throughout the entire City can be context-specific — based on factors such as vehicular speed, volume, access points, available right-of-way, and surrounding land use.

6.1.5 Making Laurier Street Complete

The City's Official Plan states that the Commercial Core Area, centered on Laurier Street, will continue to be a multi-functional area that serves as a vibrant focal point for the entire City and emphasizes a safe and attractive pedestrian environment. Assessment of the existing facilities network notes that the majority of crosswalk maintenance and/or implementation occurs along this primary corridor.

Laurier Street represents a multi-faceted placemaking opportunity as a potential fully serviced east-west multimodal corridor that enhances safety along the traditional civic and commercial centre of the largest settlement area within the municipality. Bicycle improvements along Laurier would contribute to addressing previously identified issues while connecting recent investments in cycling infrastructure. The addition and upkeep of formal crossings and traffic controls would directly support safety and could also reinforce official City placemaking objectives.

Despite its potential, we acknowledge challenges and constraints related to roadway width. Roadway programming that meets the needs of users of all modes will require trade-offs.

6.1.6 Restoration of Transit Service

As commuter transit service has been indefinitely suspended due to pandemic restrictions and County-operated intermunicipal service ended service in 2022, Clarence-Rockland is no longer served by any form of non-medical public transportation. Additionally, distances between the City's hamlets and its urban area render walking and bicycling as impractical travel modes.

The previous MMTMP presented a transit network and service strategy predicated on the previous level of transit service acting as a baseline for improvements. Based on a 2014 transit feasibility study, those recommendations put forward a on-demand pilot program. Contemporary bicycle data suggests that a Rockland circulator or small on-demand service could meet needs in the community, especially seasonally, though per the earlier idenification of uncertainty among shifting travel patterns, overall transit demand is not fully understood.

There is an opportunity to update the 2014 transit document with a new study and reassess the possibility of on-demand transit within Clarence-Rockland. Due to the discontinuation of transit services, new questions have emerged regarding coverage areas and service types. On-demand transit has the potential to integrate the last mile and first mile as part of a transit trip thanks to its flexible service model with no fixed routes, especially helpful to both younger and older residents who are more likely not to have access to a vehicle.

6.1.7 Formalization of Truck Routes/Restrictions

Large vehicle freight traffic presents concerns related to recurring infrastructure maintenance burden and roadway safety issues for other users on roadways not suited to handle certain vehicle types. The current inventory of truck-restricted roadways however, lacks coherence and selectively includes certain clusters of local streets, but not others.

Revising desired freight routing through Clarence-Rockland offers an opportunity to define preferred truck routes in addition to tabulating the collection of roadways intended to be off-limits to freight vehicles of specific weights and classes.

6.2 Recommended Multimodal Network

This section of the MMTMP Amendment updates the methodology and inclusion decisions for the full set of implementation projects required to achieve the full recommended multimodal transporation network. Updated cost and implementation details follow facility, policy, and strategy recommendations.

Recommended networks support the City's strategic priorities as well as the MMTMP Amendment's vision, goals and metrics. An emphasis remains on the robustness of the network to disruption; whether certain links or entire modes become temporarily unavailable. Connectivity reflects a strong and useful transportation network. By extension, equity is served when connections are created to and through previously unconnected neighbourhoods. Individual projects should contribute to enhanced safety not only for users of the mode it intends to serve, but for all roadway users. The transportation network should allow for convenient access to desired destinations while supporting the integration of newly developed areas within Clarence-Rockland into the greater community.

6.2.1 Active Transportation Network

The City of Clarence-Rockland's Active Transportation network is growing, primarily focused within Rockland. Recomendations of the 2019 MMTMP and this 2024 Amendment attempt to close gaps in that network to provide safe transportation options to residents and visitors that promote ease of access to destinations, support ongoing and future development, and are feasible to implement.

Reassessment of the network and project list of the 2019 MMTMP significantly consolidates the number of active transportation projects from 121 to 75 largely by combining single mode projects such as sidewalks and signed routes into multimodal projects, which directly support neighborhood internal connectivity for all modes. The new recommended network follows citations in the Clarence-Rockland Urban Area Official Plan, the Expansion Lands Secondary Plan, the St-Jean Street / Poupart Road Municipal Environmental Assessment, and the Ottawa Road 174 / County Road 17 Environmental Assessment to augment the expected major active transportation network. Projects derived from these sources are retained in the revised phasing, cost, and evaluation table in **Appendix B**.

Development of the recommended network for this amendment first required an assessment of projects listed in the 2019 MMTMP. Projects completed or superceded since that date were removed. The remaining candidate corridor network was re-evaluated for compatibility with the emerging issues and opportunities identified in Section 6.1. Unnamed projects related to presently unrealized development were also removed due to uncertainty regarding exact locations of future network expansions.

6.2.1.1 Pedestrian Network

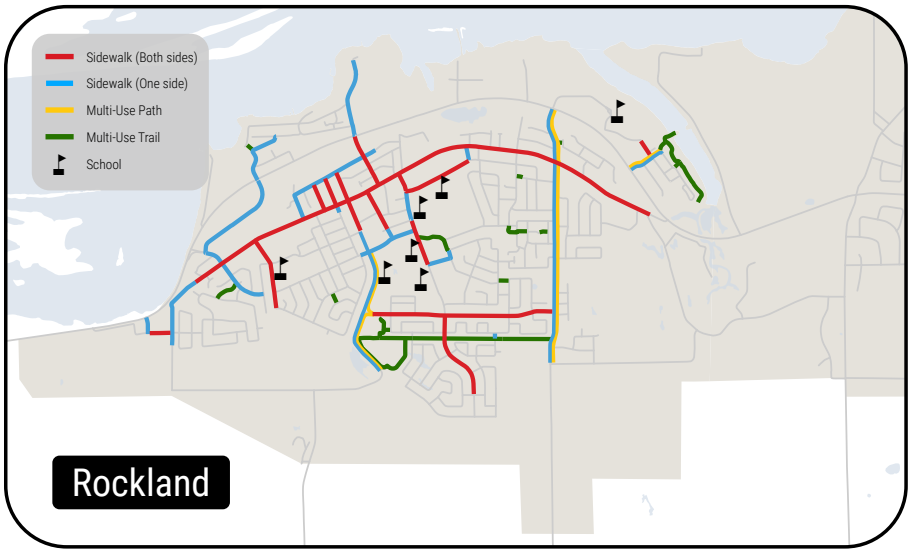
The recommended pedestrian network not only provides separate and safer paths for those traveling on foot, but it can also provide a vital first/last mile link between other complementary modes of transportation. Pedestrian connections are vital to supporting and encouraging use of a future transit service by providing safe and clear access to bus stops. Similarly, sidewalks support local retail and neighbourhood trips, even when automobiles are used to make final endpoint connections to destinations. Nowhere is this more prevalent than along Laurier Street where the sidewalks support and provide a connection to retail, or along Patricia Street where sidewalks provide a key connection to various schools.

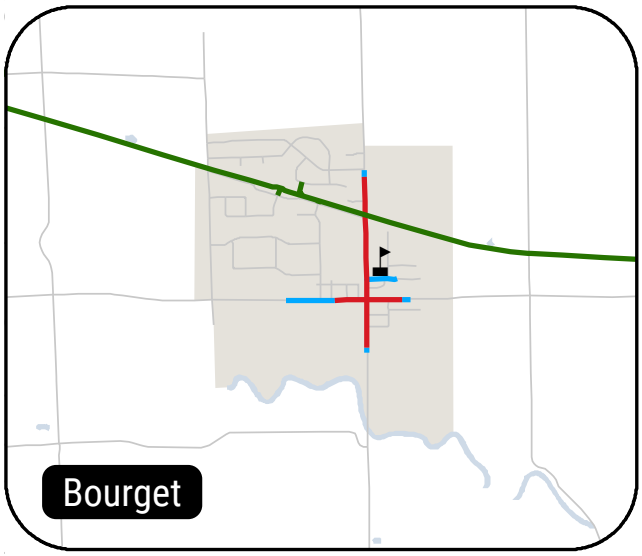
The existing pedestrian network is primarily focused on the Rockland urban area. The recommended network provides

Table 6.1 Aggregated Existing and Future Pedestrian Network Connectivity

Pedestrian Facility	km Existing	km Proposed	Total	Existing Connected Links	Future Connected Links	Change
SIdewalks	38.0	16.7	54.7	38	93	**+55**
Multi-Use Paths	3.5	28.7	32.2	5	60	**+55**
Multi-Use Trails	19.0	5.8	24.8	7	33	**+26**
Total	**60.5**	**51.2**	**111.7**	**50**	**186**	**+136**

Figure 6.1 Existing Pedestrian Network



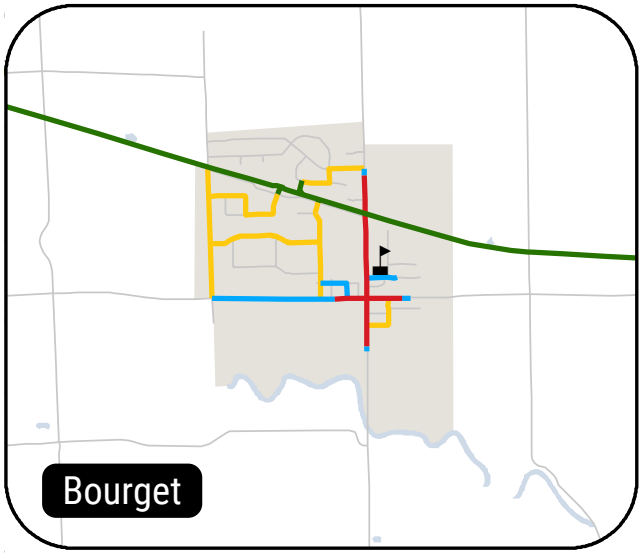


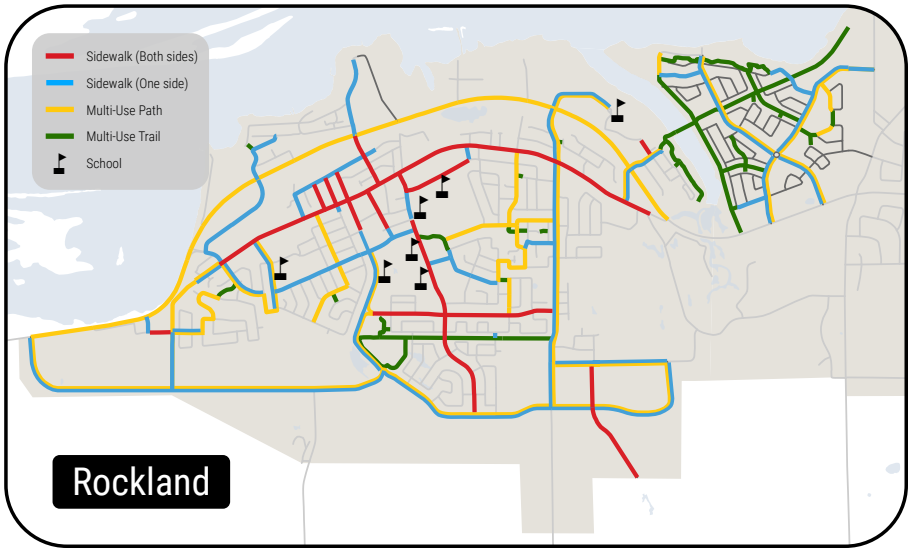
a connected network of walking routes that addresses community connectivity needs. The new network intensifies from within and expands outward to provide connections to schools and other community centres as visualized in **Figure 6.1** and **Figure 6.2**. The new network simplifies and limits the conceptual pathway system proposed in the Bourget Official Plan to links along existing rights-of-way that connect communities to each other as well as to the Prescott-Russell Recreational Trail.

Considering typical amenable walking distances, the network was designed to fill network gaps, particularly within neighbourhoods, and to connect residential areas with retail, community facilities, schools, parks, and the wider transportation network around the periphery of the settlement areas. A connected link is defined as one that connects to two other pedestrian facilities of any type. The revised recommended pedestrian network adds 50.8 kilometres of separated facilities, an increase of 84 percent, but realizes two and a half times the connectivity due to strategic selection of facility locations as summarised in **Table 6.1**.

Rather than retrofit sidewalks on both sides of local streets along with the inclusion of an on-street bicycle improvement, the revised network and project list put forward in this amendment makes greater use of the multi-use path within Rockland and Bourget neighborhoods. Multi-use paths are flexible active transportation infrastructure that serve both pedestrians and cyclists. Compared to a 1.8

Figure 6.2 Recommended 2034 Pedestrian Network





metre wide sidewalk, the suggested 3.0 metre width provides a higher level of comfort and better facilitates passing for groups of pedestrians and those who require greater protection from traffic, often called Designing for All Ages and Abilities (AAA). In addition to a reduction in the number of discrete projects recommended, the implementation of an asphalt multi-use path versus two concrete sidewalks and in-roadway bicycle accommodations results in a capital cost savings of 50% or greater, dependent on the original preferred bicycle facility.

A detailed line-by-line summary of each individual improvement along with their associated costs and associated evaluation scores are provided in **Appendix B** to this amendment.

6.2.1.2 Cycling Network

The recommended cycling network generally focuses on similar objectives and needs as the pedestrian network, including a focus on improving safety, accessibility, creating connections to key trip generators, and integrating the network with other modes of transportation. Non-recreational cycling is typically best suited for 2-5 km trips whereas most walking is typically done for distances of 1.5 km or less. Cycling is complimentary to shorter trips and performs a role in the transportation system between that of walking and other modes.

The updated recommended cycling network comprises a mixture of dedicated and shared cycling infrastructure culminating in a city-wide network of roughly 160 km of facilities. Cycling routes and facility types that are recommended to be added incrementally through the 2034 horizon year are visualized in **Figure 6.3** and **Figure 6.4.**

The targeted nature of the connectivity-focused recommendations increase the length of cycling infrastructure by 94 percent over the existing network, resulting in over eleven times the number of connected transportation links for cyclists.

Recommendations for paved shoulders along rural roads, which leverage planned improvements at the County level, comprise the bulk of added route length. These facilities provide connections between each of Clarence-Rockland's settlement areas and create a more dynamic integration with the Prescott-Russell Recreational Trail.

Within Rockland a network of cycling infrastructure is planned to support existing and new neighbourhoods. The backbone of the system consists of multi-use paths and painted bike lanes along existing, under construction, and proposed arterial and collector roads to provide high-quality connections between neighborhoods and destinations across the urban area. Within existing residential areas in Rockland and Bourget, a more finely grained multi-use path network is planned to align with important pedestrian corridors. These interior networks provide a flexible solution to providing access to the spines of the longer-distance network while addressing combined needs.

A detailed line-by-line summary of each individual improvement along with their associated costs and associated evaluation scores are provided in **Appendix B** to this amendment.

Bicycle Facility Selection

Research shows that one of the most effective measures for improving overall cyclist safety within a road network is increasing the number of cyclists using the system. However, in order to encourage cyclists of different ages and abilities to participate, a variety of bicycle facilities with different degrees of separation between motorists and cyclists must be available. Separation of cyclists and motor vehicles becomes increasingly more important as traffic

Table 6.2 Aggregated Existing and Future Bicycle Network Connectivity

Pedestrian Facility	Route km Existing	Route km Added	Total	Existing Connected Links	Future Connected Links	Change
Painted Bicycle Lane	3.2	6.6	9.8	3	21	**+18**
Protected Bicycle Lane	N/A	1.0	1.0	N/A	4	**+4**
Multi-Use Paths	3.5	28.7	32.2	3	61	**+58**
Multi-Use Trails	19.0	5.8	24.8	6	29	**+23**
Signed Route	N/A	0.6	0.6	N/A	1	**+1**
Paved Shoulders	56.8	35.1	91.9	3	23	**+20**
Total	**82.5**	**77.8**	**160.3**	**15**	**139**	**+124**

Figure 6.3 Existing Cycling Network

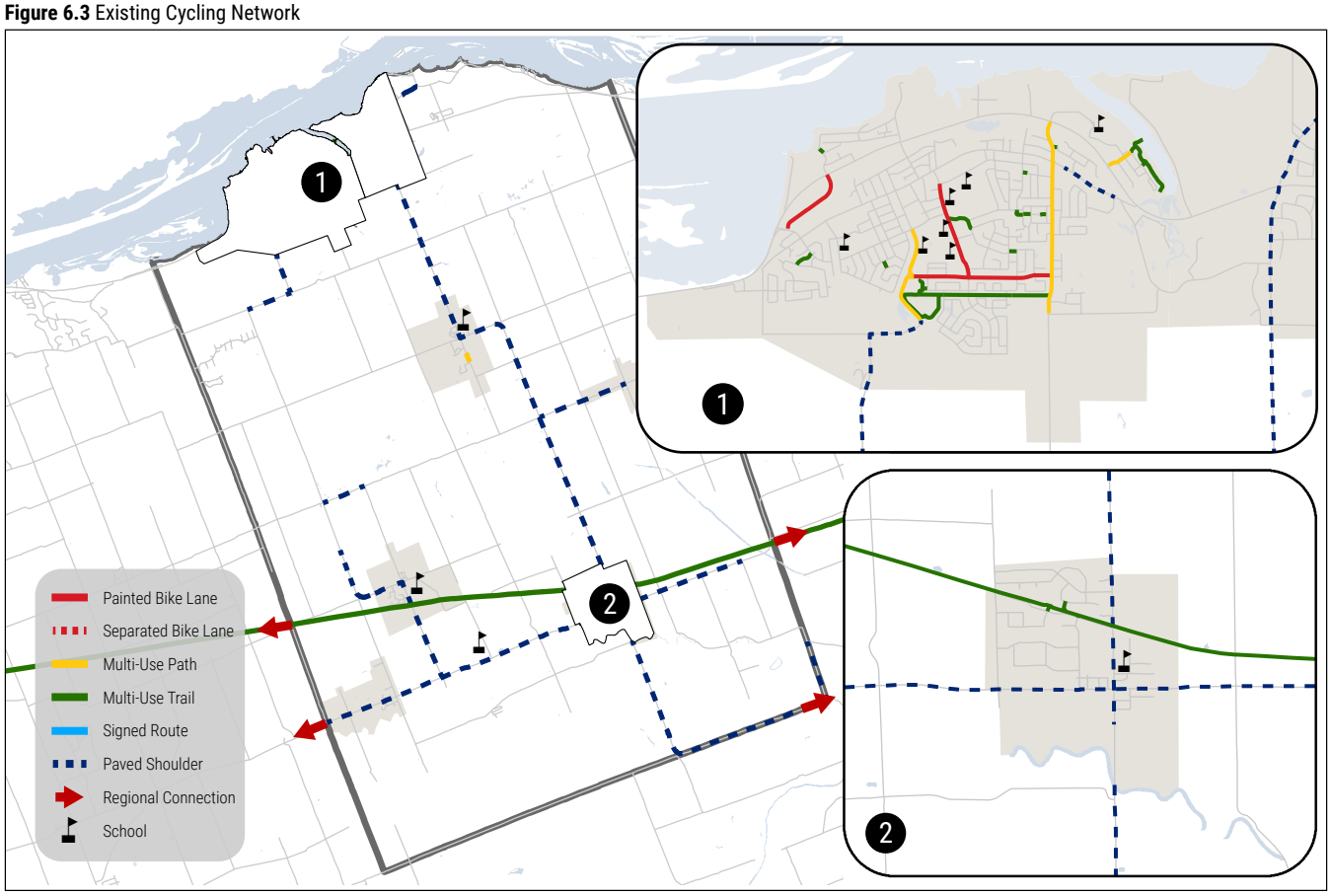
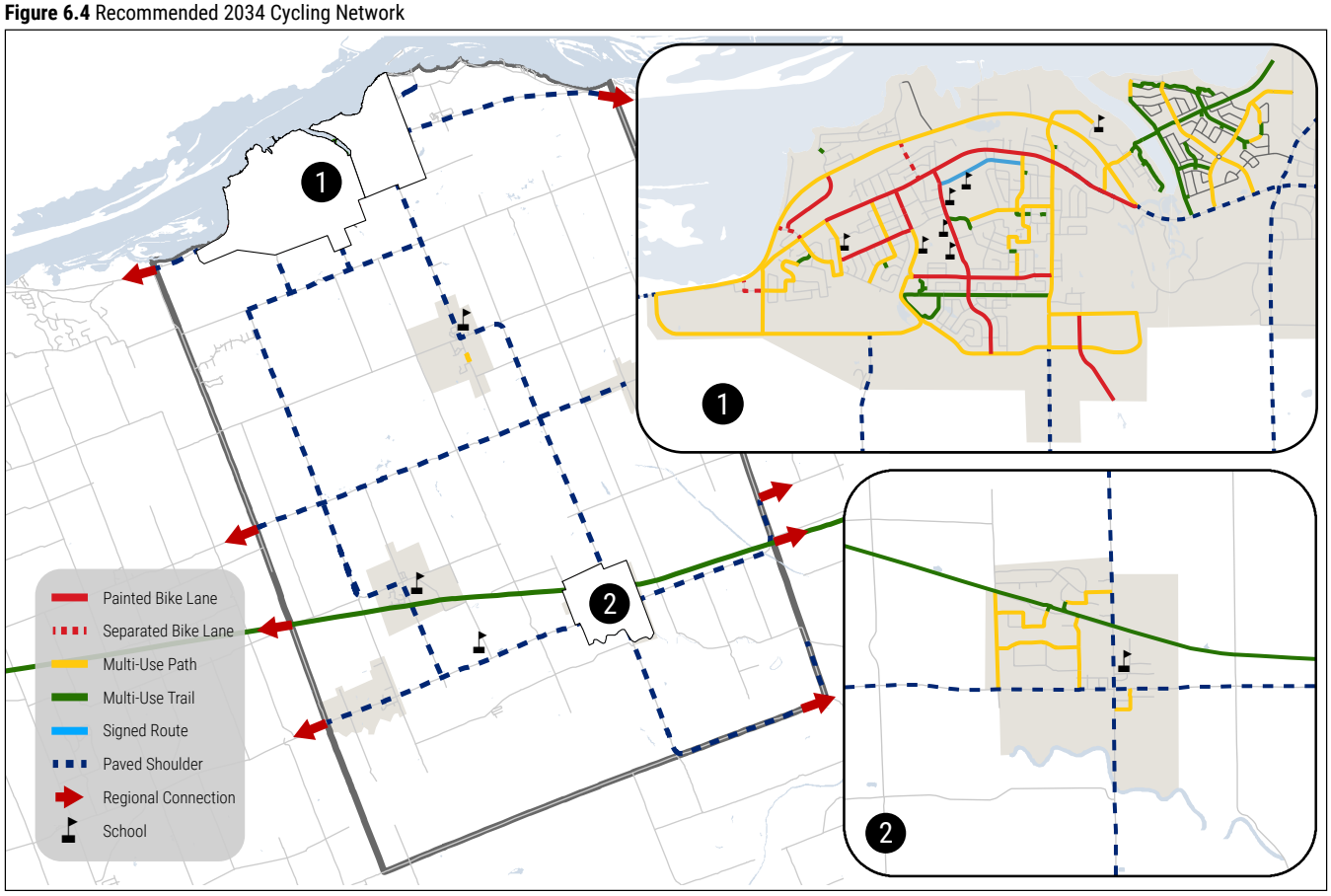


Figure 6.4 Recommended 2034 Cycling Network



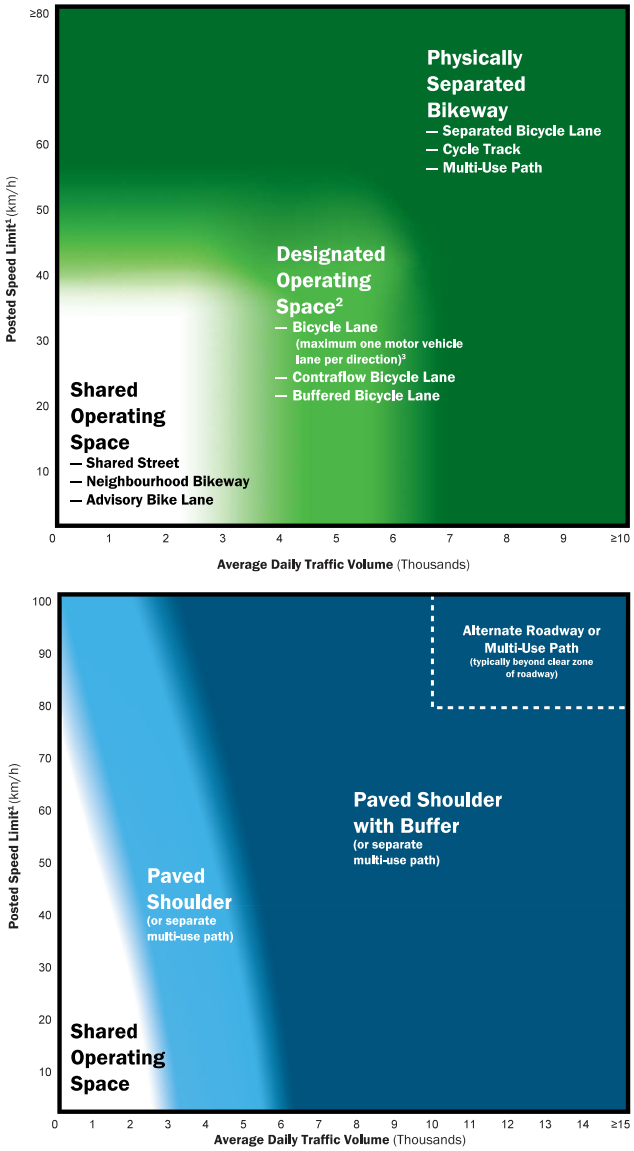
volumes and operating speeds increase, and on corridors with a high propensity for conflicts.

The identification and selection of a specific cycling facility type is directly influenced by roadway:

- Vehicular Speed;
- Vehicular Volume;
- Vehicular Access Point Count and Location; and
- On-street Parking Availability

The level of separation between cyclists and motorists ranges from shared travel lanes with no separation to off-road multi-use pathways outside of the roadway right-of-way. Intermediate alternatives vary from bicycle lanes with a painted buffer or physical barrier to in-boulevard bicycle facilities within the right-of-way.

Figure 6.5 Cycling Facility Selection Nomograph



Source: Ontario Traffic Manual Book 18

A direct comparison of the relative safety of various bicycle facilities is not limited to the degree of separation from vehicular travel lanes. A bicycle facility with greater separation may appear 'safer,' but may result in more conflicts at intersections and driveways, especially if the cyclist becomes less visible to the motorist due to the separation. The overarching selection of a cycling facility type follows a 3-step process:

Step 1: Facility Pre-Selection: Pre-select an appropriate facility type based on vehicular volume and speed using the context-appropriate nomograph from the Ontario Traffic Manual Book 18 as shown in **Figure 6.5**.

Step 2: Consider corridor specific characteristics: Consider design characteristics such as visibility of cyclists, number of driveways, and whether on-street parking is provided.

Step 3: Justify Decision and Identify Design Enhancements: Document the rationale.

Six common in-right-of-way bicycle facility types providing varying degrees of traffic separation are summarized in **Table 6.3** along with their associated geometric requirements. These facility types are grouped and further described on the following pages.

Table 6.3 Desired and Minimum Standards for Cycling Facilities

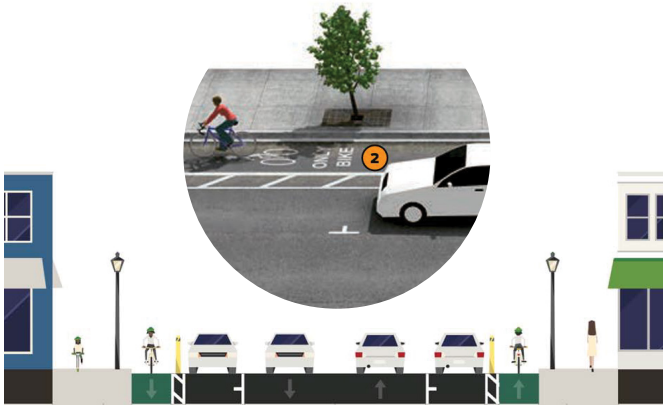
Facility	Desired Width	Minimum Width
Painted Bicycle Lane	▸ 1.8m lane ▸ 1.0m buffer	▸ 1.5m lane ▸ 0.6m buffer
Separated Bicycle Lane	▸ 1.8m lane ▸ 1.0m buffer	▸ 1.5m lane ▸ 0.3m buffer
Raised Two-Way Cycle Tracks	▸ 3.5 — 4.0m travel area	▸ 3.0m travel area ▸ 0.3m curb
Multi-Use Path	▸ 3.5m — 4.0m travel area ▸ 1.5 — 2.5m buffer	▸ 3.0m travel area ▸ 0.6m buffer
Paved Shoulder	▸ 1.5 — 2.0m shoulder	▸ 1.2m shoulder
Signed Route	▸ 3.0 — 4.0m shared lane	▸ 2.7m shared lane

Source: Ontario Traffic Manual Book 18

Bicycle Lanes

Painted Bicycle Lanes:

Painted bike lanes are appropriate to service areas with high trip generation, but that feature lower traffic volumes and fewer roadway conflicts such as parked vehicles or pick-up & drop-off activity. Lanes are directly painted on the roadway and accompanied by associated on-pavement and mounted signage. According to the Ontario Traffic Manual, Book 18, the opening of vehicle doors and alighting passengers both pose a significant threat to the safety of people riding bikes, and as such, facility design should guide people riding bikes to travel outside of the door zone.



Separated Bike Lanes:

Bicycle lanes separated from adjacent motor vehicle lanes by a horizontal buffer plus vertical elements such as flex bollards or a barrier are meant for roadways with a large number of trip generators, high volumes of traffic and on-street parking to provide an additional layer of safety for cyclists. The added lateral and physical separation provides most cyclists with a more comfortable riding environment and mitigates the potential for door strikes from parked or stopped vehicles.

Shared Cycling Facilities

Paved Shoulders:

Paved Shoulders are meant for rural areas with low cycling volumes. The shoulder is paved to allow for cyclists to travel separated from traffic when the shoulder is not being used for other purposes. Paved shoulders provide an opportunity to connect Rockland with rural areas and hamlets for cyclists.

Signed Routes:

Signed routes are shared roadway facilities recommended on low-volume roadways that have been optimized for bicycle travel and either connect to higher-order cycling facilities or create a low-stress route for cyclists parallel to a heavily travel vehicular route. Pavement markings and signage alert motorists to share the lane.

Physically Separated Bikeways

Cycle Tracks:

A cycle track is a physically separated bikeway that is horizontally and vertically separated from the travelled portion of the roadway by a curb and buffer to provide a much safer cycling environment along roadways with high motor vehicle speeds and volumes. Cycle tracks are designated exclusively for use by people riding bikes, often travel parallel to a sidewalk, and can carry one-way or two-way bicycle traffic.

Multi-Use Paths:

Multi-use paths are shared pathways that can be used by pedestrians and cyclists that are horizontally and vertically separated from traffic by a curb and planting strip or tree lawn. Multi-use paths are suitable for roadways with moderate-to-high motor vehicle speeds and volumes, allow for two-way movement, and are often also used as mid-block connections within and between parks and recreational areas.

6.2.1.3 Transit Network & Service Strategy

The suspension of commuter and countywide on-demand transit services as summarized in **Section 3.2.3** of this document has created a need for a new baseline assessment of the viability of transit in Clarence-Rockland. A 2014 study of the feasibility of enhanced transit across the City formed the backbone of transit network recommendations in the 2019 MMTMP. Recommendations of prior studies intended to complement the existing transit system as understood at those points in time.

The Transit Feasibility study stated that a fixed route service was not recommended for the City in the short-term, given the anticipated low demand and high costs. However, an on-demand transit service was recommended as a pilot project to further evaluate the demand for transit, to confirm resident support for the service, and to test service design and delivery options. Long-term recommendations encouraged a reevaluation of the infeasibility of local fixed route service as the socio-economics and physical distribution of developed destinations evolves.

A new transit feasibility study should be conducted that seeks to establish a new appropriate service type, optimal physical coverage area(s), meaningful extermal connections, mutual reinforcement of the active transportation network, and fundamental operational considerations.

Viable Service Type and Coverage Area

An updated examination of the viability of public transportation services in Clarence-Rockland should validate the understanding of ridership generators, attractors, and intermediate travel patterns within the City to determine suitable service coverage, and by extension, service type. Observed travel demand data suggests transit demand for the following dominant movements:

- **Classic commutes to/from Ottawa**
- **Cross-district trips within Rockland**
- **Connections between settlement areas**

Assumptions regarding demand and operational costs steer initial discussion of potential local services toward on-demand delivery models.

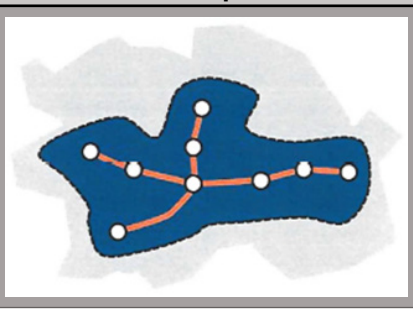
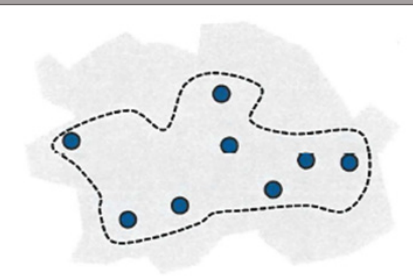
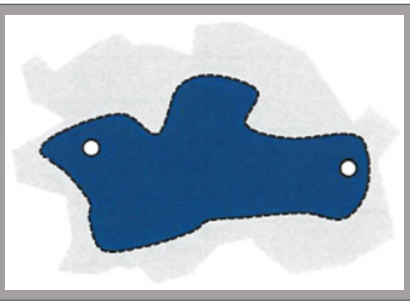
Flexible transit services comprise a family of transit services that have some combination of flexible routing and scheduling. They are typically implemented in areas where the travel demand is less than what is required to sustain a form of fixed route transit. Three potential Flexible route options that are typically used include:

- Route Deviation;
- Point Deviation; and
- Zone Route.

Each service model makes use of dispatching technology to offer a demand-responsive service. The origin, destination and routing of trips depends on the travel needs of passengers. The delivery methods rely on dynamic scheduling, which requires hands-on management of the complex logistical process of receiving calls, organizing rides, verifying fare payment, and dispatching vehicles via flexible mobility service software.

The success of similar systems across Canada stems from the lower capital costs required to implement the service in relation to lower anticipated ridership.

Table 6.4 Flexible Transit Route Options

Flexible Route Type	Example
Route Deviation: A defined path and schedule is used to define a service area, but the vehicle(s) may serve requests for a pick-up or drop-off within a specified zone around the path. The deviation-zone may or may not be strictly bounded	
Point Deviation: Service is provided within a defined zone with a set of specific stops, but the path between the stops is unspecified and the vehicle will serve locations within the zone on request.	
Zone Route: A primarily demand-responsive service that has set departure and arrival times at its end points. The Zone Route is effective when there is not a defined corridor to travel, but a specific origin or destination exists with an area.	

External Links

As the City of Ottawa's O-Train East extension project nears completion, reaching Trim Road, the expansions presents an opportunity to reimagine commuter transit service for residents of Clarence-Rockland. The Confederation Line's eastern-most station will sit 12 kilometres from Clarence-Rockland's western boundary and less than 16 kilometres from the centre of Rockland. New transit service can integrate into the OC Transpo network via shuttle service rather than long-haul coach bus, potentially allowing for increase frequencies and service spans compared to typical peak period commuter service.

Active Transportation Integration

The local active transportation network supports transit usage. If local transit service is reinstated in the future, it will be important to integrate transit services with key multimodal connections. Establishmentof one or more mobility hubs at strategic locations creates an opportunity to efficiently leverage a mixture of transit rider, pedestrian, cyclist, and motorist amenities and shared mobility options to encourage balance in the City's transportation system.

Service Standards and Contracting

As Clarence-Rockland considers commencing a new project to study the feasibility of reintroducing transit service, the City should include operational aspects of providing service in its scope of work. An updated study should recommend a business model to prepare decision makers to take greater control over the design and delivery of local transit services.

Clarence-Rockland should investigate a performance-based contracting strategy among other evaluated options with the continual goal in mind of providing the highest possible quality of service delivered in a fiscally responsible manner. Operational achievement standards establish expectations within the relationship between the City of Clarence-Rockland and its service contractor. Future study should analyze the likelihood that a chosen service model can follow through on high standards related to reliability, on-time performance, customer feedback, roadway safety, and fleet durability per the terms of any financial agreement.

Related to both service standards and performance-based contracting, detailed study should also cover elements required to provide a robust customer experience from vehicle cleanliness to ride booking technology to the customer service interface. The guidance included in a transit feasibility study update should be adequately comprehensive for Clarence-Rockland to successfully plan, operate, and maintain a future transit service.

6.2.2 Vehicular Network

The recommended vehicular network comprises a mixture of new roadways, extensions, widenings, intersection improvements, and classification updates to realize multimodal connections between existing neighbourhoods and to accommodate new growth within Rockland.

6.2.2.1 Physical Modifications

The Municipal Environmental Assessment for the St-Jean Street/Poupart Road corridor is in the process of selecting detailed preferred alternatives for improvements previously identified in the Morris Village Traffic Impact Study. These include the widening of roadway sections as well as the inclusion of mutiple roundabout intersections to accommodate an influx of new residential property that is planned adjacent to the corridor. Future network effects of growth along Poupart Road will require the creation of a new major corridor linking it to County Road 17 at the western edge of the current urban area boundary.

Clarence-Rockland should continue to anticipate the widening of County Road 17 between the western municipal boundary and Landry Road. While the corridor is outside of City control under the jurisdiction of the United Counties of Prescott & Russell, an Environmental Assessment for the corridor was completed in 2016 that solidified this recommendation.

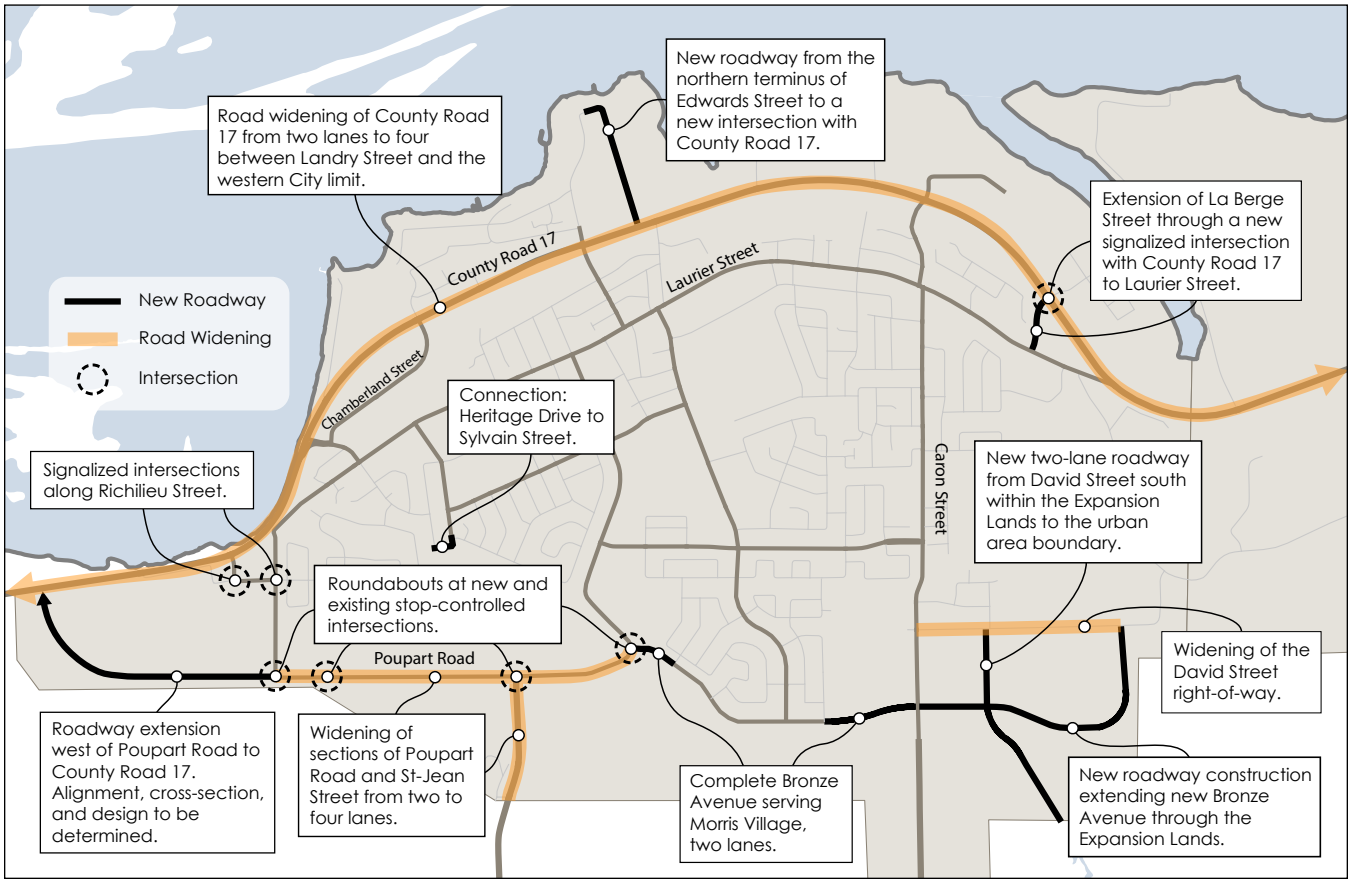
This amendment retains recommendations to complete several local street extensions listed in the Official Plan such as the linking of Heritage Drive to Sylvain Street.

The 2019 MMTMP recommended closure of Laurier Street at its eastern intersection with County Road 17, citing difficulties for eastbound right-turning vehicles onto Laurier Street as well as challenging sightlines for vehicles exiting Laurier Street onto County Road 17. The overall recommendation would extend La Berge Street to meet Laurier Street at a point further west. This amendment suggests a reassessment of that closure while retaining plans for the La Berge Street extension and a reconfigured, likely signalized, intersection with County Road 17. A hybrid approach preserves network connectivity to the east while mitigating stated safety concerns and providing direct access to Rockland's core for existing and future residential properties north of the busy arterial roadway.

Additionally, the 2019 MMTMP assessed the following intersections as candidates for traffic control enhancements:

- Richelieu Street at Carmen Bergeron Street and at Poupart Road. The existing intersections are four-way stops, which may require signalization in the future to accommodate additional traffic
- Baseline Road at Caron Street and at Landry Street. The existing intersections are two-way stops that may require enhancements in the future to accommodate

Figure 6.6 Recommended Road Network Improvements



higher volumes of left turns.

Figure 6.6 visualizes the complete set of recommended roadway modifications summarized in **Table 6.5.** A detailed line-by-line summary of each individual improvement along with their associated costs and associated evaluation scores are provided in **Appendix B** to this amendment.

Given the potential development of lands south of current urban area boundary — beyond the timeframe of this current TMP update and Official Plan — the City of Clarence-Rockland is encouraged to consider within future master plans and development studies the need and justification for a major collector roadway. This roadway, connecting the St-Jean Corridor and Caron Street, would serve to provide additional east-west connectivity for vehicular traffic beyond the 20-year planning time frame.

Table 6.5 Vehicular Network Modification Recommendations

Improvement	Description
County Road 17 Widening	Road widening from two lanes to four between Trim Road in Ottawa and Landry Street in Clarence-Rockland based on the Environmental Assessment recommendation. This will include a multi-use path on the south side of the roadway, as well as paved shoulders east and west of Clarence-Rockland.
Poupart Road / St. Jean Street Roundabouts	Per the St-Jean Street - Poupart Side Road Municipal Environmental Assessment, new roundabouts at the new Bronze Avenue, the intersection of St-Jean Street and Poupart Road, , the entrance to the future Stewart Village development, and the future intersection with the New West Roadway.
Poupart Road Widening	Per the St-Jean Street - Poupart Side Road Municipal Environmental Assessment, road widening from two lanes to four between St-Jean Street and the roundabout at the New East-West Roadway. Will include a multi-use pathway on the north side and a sidewalk on the south side of the roadway.
St-Jean Street Widening	Per the St-Jean Street - Poupart Side Road Municipal Environmental Assessment, road widening from two lanes to four between Poupart Road and the new Bronze Avenue as well as south to the urban area boundary from the new roundabout at Poupart Road.
New Bronze Avenue Completion	New Roadway Construction completing Bronze Avenue in the vicinity of Morris Village. Will include a multi-use pathway on the north side of the roadway and a pedestrian sidewalk on the south side.
Sterling Avenue Extension	Extension of Sterling Avenue with painted bike lanes and sidewalks on both sides of the road.
Bronze Avenue Extension	Extension of the Morris Village East-West Roadway with a two-lane cross-section between Caron Street and David Street in the Expansion Lands. Will include sidewalks and on-street bike lanes.
Expansion Lands Street 'B'	New two-lane roadway to service the new expansion lands area. Will have sidewalks and on-street bike lanes on both sides of the road between David Street and the urban area boundary.
David Street	Per the Expansion Lands Secondary Plan, the David Street right-of-way shall be expanded to a width of 26 metres between Caron Street and the Bronze Avenue extension. Will include sidewalks on both sides and on-street dedicated cycling facilities.
Edwards Street Extension	Extension of Edwards Street to loop to County Road 17.
Heritage Drive Loop	Connection of Heritage Drive to Sylvain Street.
La Berge Street Extension	Extension of La Berge Street from County Road 17 to Laurier Street. Will include sidewalks and painted bike lanes on both sides.
New West Roadway	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.

6.2.2.2 Road Classification Updates

The 2019 MMTMP defined a new road classification framework to incorporate appropriate design parameters for active transportation and transit. An April 2021 Office Consolidation of the Official Plan of the City's urban area directly incorporates this framework. Language directly drawn from the master plan provides typology descriptions of most roadways within the framework in Sections 7.2 through 7.5 of the new Official Plan while Schedule B1 spatially illustrates the assignments in map form.

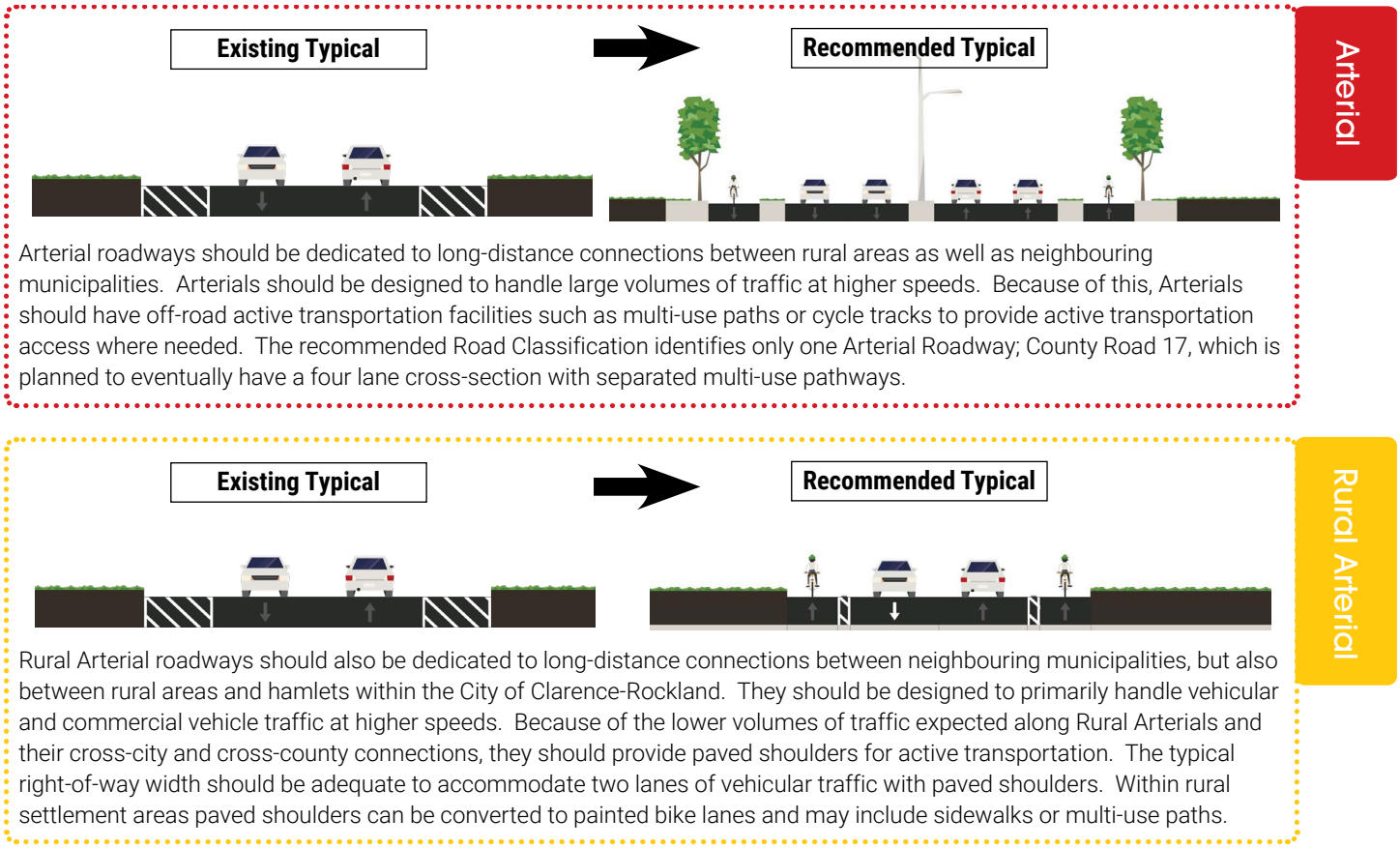
The following is a brief description retained from the original MMTMP of each classification type and the function it serves within a system developed to inform the City's planning outcomes, investment decisions, and future function of the street network:

- **Arterial Roadways:** Dedicated to the quick and efficient movement of goods and people over long distances.
- **Rural Arterial Roadways:** Similar to Arterial Roadways but are designed to rural cross-sections and speeds.
- **Main Streets:** These streets should balance pass-through vehicular operations, with destination-based needs such as on-street parking, pedestrian, cyclist, and transit mobility.
- **Major Collector Roadways:** Provide safe, reliable and efficient movement between neighbourhoods and strategic centres.
- **Minor Collector Roadways:** Service major nodes such as schools and community centres as well as provide a link to the broader roadway system.
- **Local Streets:** Facilitates local access to communities and private properties.

Despite its inclusion in Schedule B1 of the Official Plan of the Urban Area of the City of Clarence-Rockland, language pertaining to the Rural Arterial typology, which is described in the retained comparison of existing and recommended roadway cross-sections below, is not included in the latest official plan. Likewise, Schedule D of the 2022 adopted and approved Official Plan of the United Counties of Prescott and Russell applies its own classification scheme to all roadways within its boundaries. The defintion and assignment of roaday types do not match those used by Clarence-Rockland.

Table 6.6 and **Figure 6.8** summarize recommended road classification revisions. **Figure 6.7** compares the cross-sections of common existing roadway forms with complete street examples, retaining language currently included in Clarence-Rockland's Offiical Plan.

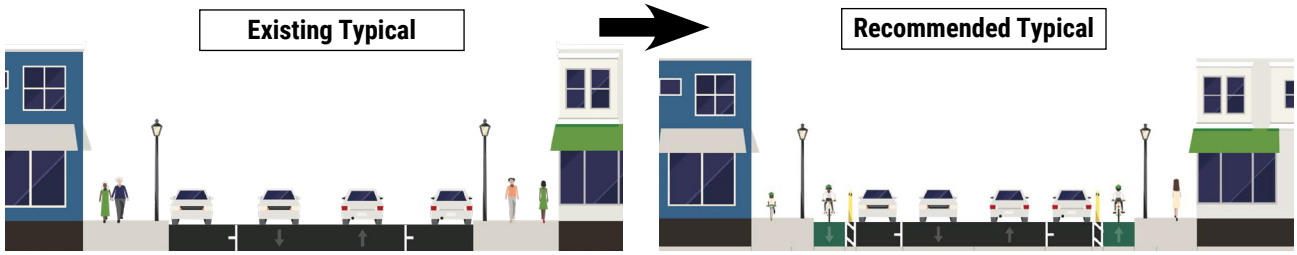
Figure 6.7 Typical Existing and Recommended Roadway Cross-Sections



Arterial roadways should be dedicated to long-distance connections between rural areas as well as neighbouring municipalities. Arterials should be designed to handle large volumes of traffic at higher speeds. Because of this, Arterials should have off-road active transportation facilities such as multi-use paths or cycle tracks to provide active transportation access where needed. The recommended Road Classification identifies only one Arterial Roadway; County Road 17, which is planned to eventually have a four lane cross-section with separated multi-use pathways.

Rural Arterial roadways should also be dedicated to long-distance connections between neighbouring municipalities, but also between rural areas and hamlets within the City of Clarence-Rockland. They should be designed to primarily handle vehicular and commercial vehicle traffic at higher speeds. Because of the lower volumes of traffic expected along Rural Arterials and their cross-city and cross-county connections, they should provide paved shoulders for active transportation. The typical right-of-way width should be adequate to accommodate two lanes of vehicular traffic with paved shoulders. Within rural settlement areas paved shoulders can be converted to painted bike lanes and may include sidewalks or multi-use paths.

Main Street

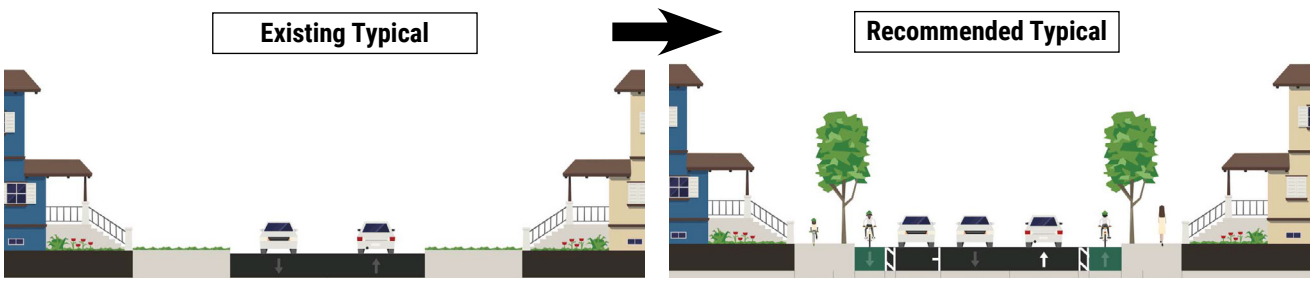


Main Streets should be dedicated to placemaking to accommodate a high demand for movement while serving a destination and activity centre along the roadway. These streets should balance pass-through vehicular operations, with destination-based needs such on-street parking, pedestrian, cyclist, and transit mobility. Because of this, Main Streets should feature dedicated cycling facilities with a preference for protected facilities such as flex bollard bike lanes, or cycle tracks, but may allow the use of painted bike lanes where space constraints dictate. Main Streets should include pedestrian sidewalks on both sides of the road. Recommended road classification assigments identify only one Main Street; Laurier Street.

Major Collector

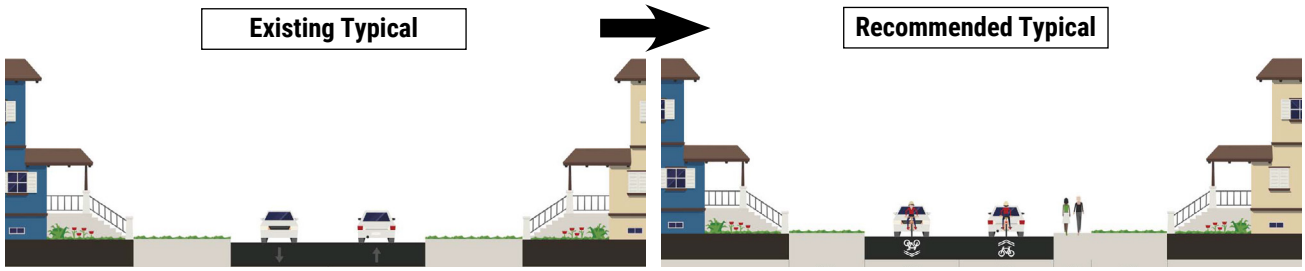
Major Collector roadways should service major commercial areas internal to Rockland as well as connect to Arterial and Rural Arterial Roadways. They should accommodate pedestrian sidewalks on both sides of the street as well as dedicated bike lanes due to the expected higher volumes of vehicular traffic. In areas where cycling demand is anticipated to be low, there may be opportunities to simultaneously accommodate pedestrians and cyclists through the implementation of multi-use paths. While not common, on-street parking may also be included where required.

Minor Collector



Minor Collector roadways should service major neighbourhood nodes such as schools and community centres as well as provide a link to the broader Major collector roadway system. They should accommodate pedestrian sidewalks on both sides of the street as well as painted bike lanes. On-street parking may be accommodated depending on the available space.

Local Street

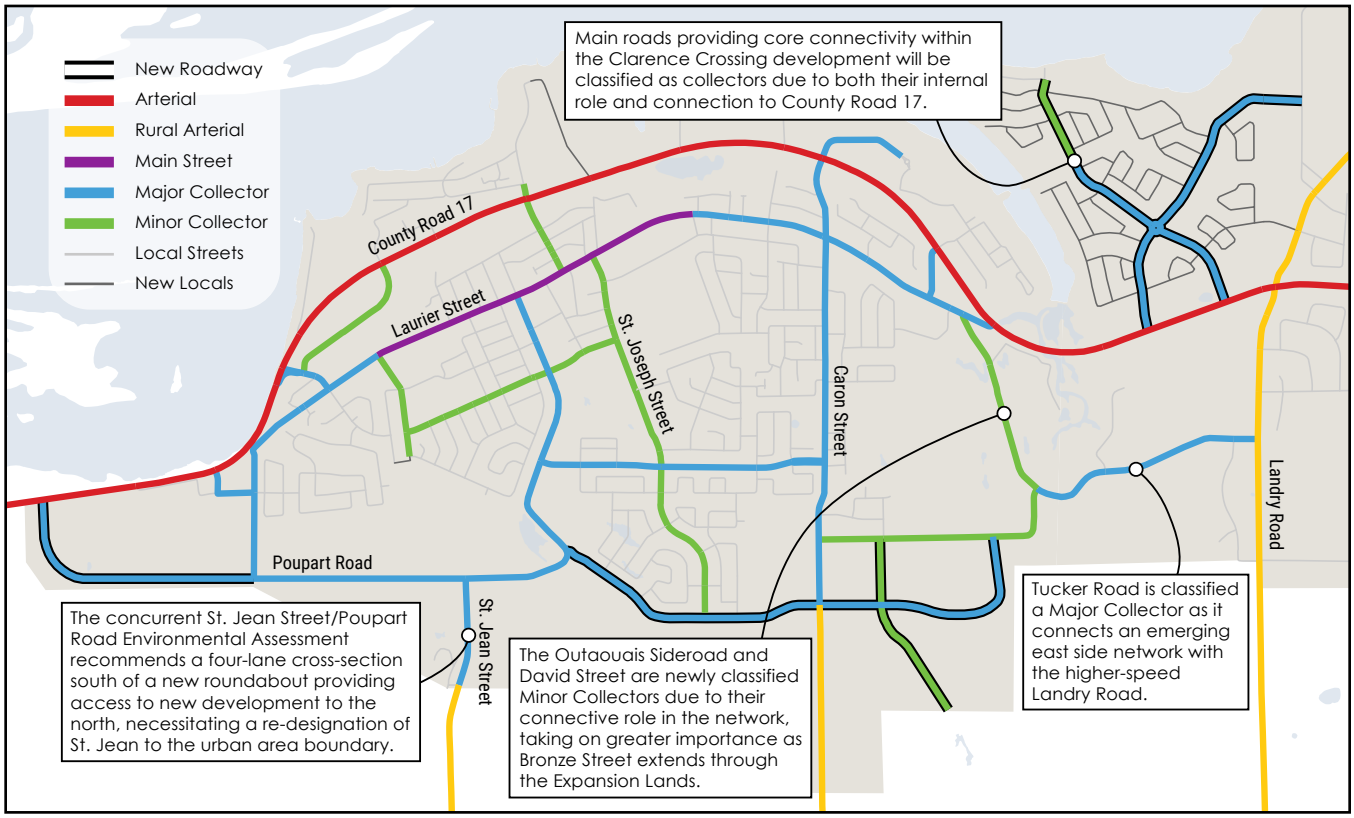


Local Streets facilitate access to communities. As low volumes of traffic generally travel along Local Streets, separated pedestrian facilities are not strictly required. However, the addition of pedestrian sidewalks on one or both sides of the street or a multi-use path can help to close strategic gaps in the larger protected active transportation network. On-street parking may be accommodated depending on the available space and need.

Table 6.6 Recommended Road Classification Revisions

Roadway	Limits	Previous Classification	Recommended Classification	Justification
St. Jean Street	Between Poupart Road and the urban area boundary	Rural Arterial	Major Collector	▸ Concurrent environmental assessment calls for widening of St. Jean Street south of proposed roundabout
David Street	Between Caron Street and Tucker Road	Local Street	Minor Collector	▸ Formalize connecting role at north end of expansion lands ▸ Accommodate new connections to major collectors
Outaouais Sideroad	Between Laurier Street and David Street	Local Street	Minor Collector	▸ Link major collectors along the eastern edge of the Rockland urban area
Tucker Road	Between Landry Street and David Street	Local Street	Major Collector	▸ Connect collector network to the higher speed Landry Road

Figure 6.8 Recommended Road Classification Revisions



6.2.2.3 Commercial Vehicle Network

Clarence-Rockland's current set of truck restrictions predates many roadway additions and improvements. Many restrictions remain in place that no longer reflect their original intention. The study team was tasked with taking a holistic look at routes throughout the municipality and developing a management scheme that is both permissive — identifying preferred routes — and restrictive.

The resultant freight network identifies permitted truck routes, including certain non-through routes, and makes clear where trucks are prohibited.

The roadway classifcation categories, excluding non-connecting local streets, which are assumed to be truck restricted, are as follows:

- **Truck Permitted Roadways** — arterials, rural arterials, major collectors, and other rural roads that provide multiple eastern, western, and southern connections to and from Clarence-Rockland and its settlement areas. Preferred routes should be defined by standard RB-61 Heavy Trucks Permitted signage.

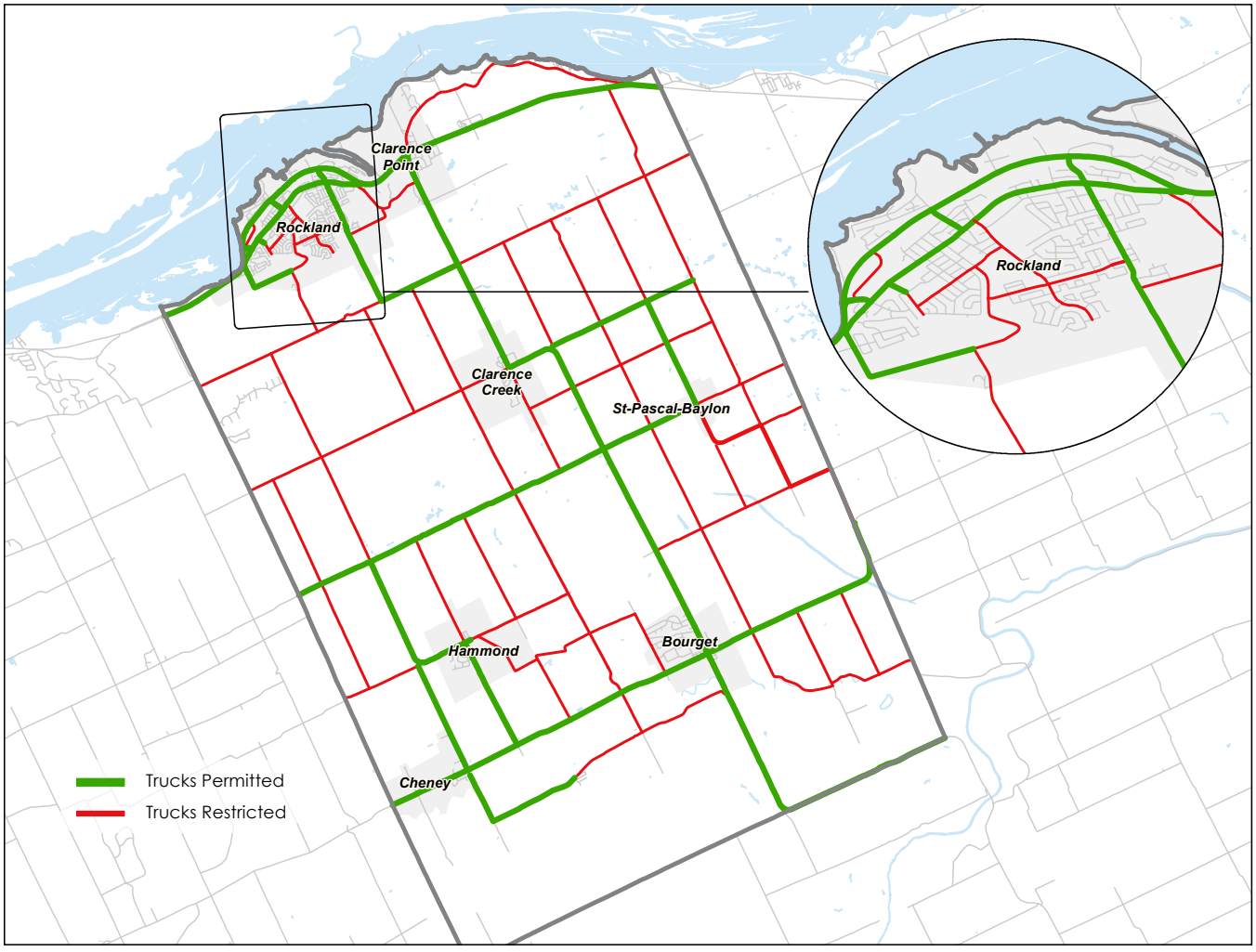
- **Trucks Restricted** — Heavy trucks not permitted. Each segment should be posted with standard RB-62 No Heavy Trucks signage to reinforce understanding of the network.

The recommended freight vehicle network bases decisions to classify roadways as restricted to trucks on a combination of factors including:

- Current restrictions in place;
- The maximum roadway grade along a segment;
- The presence of curves in the roadway that limit lane width and visbility;
- The posted speed of the roadway segment; and
- The roadway surface and load rating — trucks are not permitted 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.

Figure 6.9 Recommendation: Preferred Truck Route Network



6.2.3 Project Evaluation

Implementation of a large-scale multimodal transportation plan requires an evaluation process to inform decision makers as they prioritize investments with the potential for the highest impact. The evaluation of transportation improvement projects identified in this amendment follows a consistent and transparent Multiple Account Evaluation approach. The framework is adequately flexible for use in comparing project types of varying scope and complexity.

The project evaluation process defines accounts meant to evaluate the new vision statement established by this TMP, its associated metrics defined in **Section 2.3**, and measures previously established by the 2019 MMTMP. Each evaluated account is an independent variable, which may positively or negatively influence the overall suitability of a recommended project. The careful definition of accounts avoids duplication of considerations in the evaluation process.

The evaluation framework assigns a score to each criterion ranging from one (1) to four (4), which is later aggregated into a composite score. This scale reflects a score that is informed by available data, but does not achieve a purely quantitative measurement and is subject to interpretation. The project score is not necessarily indicative of a project's phasing assignment within the implementation plan nor its ideal commencement date. Decision makers should consider whether staff expertise or other factors supercede traditional determinants of phasing such as project complexity, funding, or duration.

Scores associated with the application of account evaluation are included in a prioritized line-item summary of each recommended project in **Appendix B** of this Amendment.

Table 6.7 Description of Evaluation Criteria

Account	Rationale	Low Score	High Score
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.	The transportation project does not create a new option to complete a trip for any mode	The transportation project creates a new option to complete a trip for all groups of roadway users.
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.	The transportation project either does not create a new network link or does not connect to another facility of comparable mode.	The transportation project connects two facilities in an existing underserved area.
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.	The transportation project does not enhance physical safety for any group of roadway users.	The transportation project enhances physical safety for all groups of roadway users.
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. Major destinations such as community centres, employment centres, or schools are typical destinations.	The transportation project does not provide access to community destinations or key commercial areas and does not support active school travel.	The transportation project directly links to business districts, community centres, parks, libraries, or arenas and/or facilitates travel to school.
Construction and Feasibility Factors	Construction costs as well as complicating factors such as property ownership and existing conflicting infrastructure highly impact the likelihood of project implementation.	The transportation project costs more than $1M and multiple complex procedural hurdles must be overcome.	The transportation project costs less than $1M with minimal complexity.
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.	The transportation project is not located in or adjacent to a new development and is not funded by development charges.	The transportation project is located in, adjacent to, or connects to a new development and is funded by development charges.

6.3 Policies & Strategies

The 2019 MMTMP, to which this document is an amendment, summarized and outlined policy-driven recommendations for:

- Traffic Calming;
- Complete Streets;
- Transportation Demand Management;
- Active Transportation Winter Maintenance; and
- Downtown Parking Management.

Some of these strategies — such as traffing calming — have been greatly expanded in companion documents while others have seen language adopted by the 2021 Office Consolidation of the City's Official Plan. Updating this section involves relating changes, noting newly adopted official policy, consolidating unchanged text, and reiterating simplified but perpetually valid recommendations.

As previously stated in the MMTMP, recommended infrastructure improvements identified have an interdependent relationship with land-use decisions. The City must address multimodal mobility needs using a unified approach to transportation and land-use planning. The policies set forth in this TMP amendment intend to achieve that aim.

6.3.1 Traffic Calming

The 2019 MMTMP identified an opportunity for the City to develop a traffic calming policy and proceeded to address definitions, problem identification, solution identification, implementation, and potential measures at a high level.

A separate Traffic Calming Toolkit accompanies the 2025 Amendment that guides decision maker through the entire traffic calming project implementation process from initiation to completion including all conditions for project continuation at each of five major steps of the process.

- Project Identification and Initiation
- Project Technical Validation
- Solution Identification, Selection, and Scoping
- Community and Official Project Approval
- Implementation Strategy and Monitoring

The toolkit elaborates greatly on the original library of traffic calming measures by dedicating a page to each containing primary purposes, advantages and disadvantages of each, accompanying signage, material cost per measure, and design and maintenance considerations. Within solution identification, a decision tree is included to identify the best measures for a series of desired conditions.

6.3.2 Complete Streets

Complete Streets are streets that are safe for everyone including people who walk, bicycle, take transit, or drive, and people of All Ages and Abilities (AAA). A Complete Street policy ensures that transportation planners and engineers consistently design and operate the entire street network for all road users, not only motorists. There is no singular design prescription for Complete Streets; each one is unique and responds to the community context. As described in Section 6.2.3.2, a complete street may include: sidewalks, bike lanes (or wide paved shoulders), special bus lanes, comfortable and accessible public transportation stops, frequent and safe crossing opportunities, median islands, accessible pedestrian signals, curb extensions, narrower travel lanes, roundabouts, and more.

An effective Complete Streets policy is comprised of many elements. These elements typically prioritize underserved communities, apply to all project phases, allow few clear exceptions, adopt excellent design guidance, adapt to the needs of the future as well as the present, and measure progress.

Section 7.1 of the latest City Official Plan mentions the over-arching philosophy of Complete Streets, though does not adopt a specific policy. Adoption can empower Clarence-Rockland to coordinate with outside agencies on new project designs, especially on those controlled by a higher tier government, to ensure that major roadway improvement projects serve and enhance safety for residents and visitors on foot or on bike.

Clarence-Rockland should establish Complete Streets guidelines inclusive of a vision statement and a set of guiding principles that commit to revise all related procedures, plans, and regulations in order to accommodate all users of the transportation system on each and every project involving physical corridor improvements.

6.3.3 Transportation Demand Management

Transportation Demand Management (TDM) focuses on understanding how people make their transportation decisions to help manage the demand placed on the transportation network. At its most basic level, TDM is a program of information, incentives and policies to help inform people about the available transportation options, as well as guide land use development to promote the use of sustainable transportation options to mitigate development impacts on the network.

TDM provides tools to help maximize recommended investments for active transportation, transit, and roadway infrastructure identified in this MTMP to encourage sustainable travel choices by supporting alternative options over the convention of frequently driving alone. TDM plays a

vital role in the design of urban environments and its influence on travel choices.

6.3.3.1 Development-Based TDM Measures

The development community has an important role and influence over the urban environment. There is a growing understanding that TDM can be more effectively pursued and implemented when it is incorporated into new developments during the initial planning and design stage, as well as during construction.

Current Subdivision and Site Plan guidance and the updated Site Plan Control By-Law do not have a defined Transportation Demand Management (TDM) process for new developments. As a result, it is difficult to develop a coordinated integration of development with active transportation investment. The City of Clarence-Rockland can incorporate TDM into official policy to leverage development in a way that supports and encourages alternative modes of transportation.

There are several TDM measures that can be leveraged through the development application process that have varying levels of effectiveness depending on the proposed land use and urban context. **Table 5.11** of the 2019 MMTMP provides a matrix of TDM measures with corresponding appropriate land uses and urban contexts that can be required during development site plan applications to encourage consideration of the integration of multimodal transportation into their designs to mitigate impacts on the natual environment and transportation network.

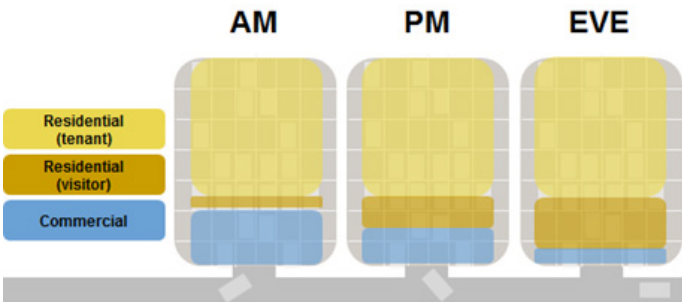
6.3.3.2 Parking-Based Measures

Parking is a key component of transportation demand management directly related to personal automobile use. Historic planning processes determine how much parking to provide at a particular site based on standards codified in municipal zoning by-laws. Oversupply of on-site parking bears external costs including the construction and upkeep costs of physically providing parking spaces, especially when underutilised.

A number of parking-related TDM measures should be part of comprehensive demand management policy. Refer to the 2019 MMTMP for additional detail:

- **Contextual Parking By-Laws** — Opportunities exist to create specific zones where reduced parking requirements are needed to encourage higher-density development oriented toward active transportation.
- **Parking Maximums** — Maximum parking requirements limit the number of parking spaces that may be built, preventing the developer from building more spaces than required, and guiding developers toward projects that are more transit-oriented in nature.
- **Shared Parking** — Shared parking serves multiple land uses that have different peak demand periods with one set of parking spaces that are shared to minimize a district's parking footprint while simultaneously maximizing parking utilization.

Figure 6.10 Shared Parking Functional Diagram



- **Carpool Spaces** — Sites may reserve parking spaces for visitors who share car journeys so that more than one-person travels in a car and prevents the need for others to have to drive themselves.
- **Carshare Spaces** — Language can be included into By-Laws which encourages or requires developers to provide dedicated carshare spaces to private companies that provide access to short-term car rentals.
- **Priced Parking and User Fees** — Charging for vehicle parking can be implemented as a TDM strategy to reduce vehicle traffic in an area by encouraging use of alternative modes of travel. The price of parking also forms part of a parking management strategy to reduce high parking demand in a particular location by responding directly to demand with fee adjustments.
- **Cash-in-Lieu of Parking** — Programs that allow developers to provide fewer on-site parking stalls in exchange for contributing to a fund used to facilitate construction of shared parking facilities, active transportation facilities, and/or streetscape.

6.3.3.3 TDM Recommendations

The City of Clarence-Rockland should develop context-specific TDM policies, including a checklist of applicable TDM measures for new developments based on land use and amendments to zoning and parking by-laws such as maximum and reduced vehicular parking rates for new developments.

6.3.4 Active Transportation Winter Maintenance Strategy

While cycling volumes drastically decrease in the winter months, public engagement performed during the creation of the original MMTMP identified reliability as being one of the top three factors influencing mode choice in Clarence-Rockland. Walking and Cycling are mode choices that can be a year-round option for getting around Clarence-Rockland, particularly for short-distance trips to community centres, schools, or nearby commercial areas.

Figure 6.11 Unmaintained Bicycle Lane along St. Joseph Street

All-seasons maintenance is critically important to provide people with a viable and safe travel option throughout the year. Predictable and consistent maintenance practices have the ability to sustain a higher rate of winter cyclists.

6.3.4.1 Provincial Standards

Provincial Minimum Maintenance Standards for Municipal Highways provide a definition for a bicycle lane which includes a portion of the roadway with marked or buffered lanes, whether for the exclusive or preferential use of cyclists and include specific sections outlining winter maintenance standards for snow accumulation in bicycle lanes. **Table 6.8** compares the new snow accumulation depth standards for bicycle lanes as compared to the existing standards for roadways.

Likewise, Section 16.3 of the provincial standards provides that snow accumulation on sidewalks shall be reduced to less than or equal to eight centimetres within 48 hours of the end of a snow event. The section further provides a standard of a minimum maintained width of one metre.

Additionally, Section 16.5 sets out standards with respect to ice formation on sidewalks, requiring that municipalities monitor weather and "treat the sidewalk if practicable to prevent ice formation or improve traction within 48 hours if the municipality determines that there is a substantial probability of ice forming on a sidewalk, starting from the time that the municipality determines the appropriate time to deploy resources for that purpose." Necessarily, this standard still leaves the municipality with discretion in terms of the deployment of resources during such events.

6.3.4.2 Clarence-Rockland Current Standards

Clarence-Rockland's Winter Control Policy identifies the winter maintenance period being between November 15 and March 31.

The policy states that sidewalks and multi-use pathways will be cleared as soon as practicable after becoming aware that the snow accumulation is greater than 8-15 cm depending on the roadway class. The expected standard is for snow to be cleared between 12 and 24 hours depending on the roadway priority.

Sidewalk snow clearing priority is in the following order:

- School zones;
- Major collectors;
- Minor Collectors; and
- Local Streets.

While there are provisions for sidewalks and multi-use paths there are no explicit provisions for bike lanes.

6.2.4.3 Active Transportation Winter Maintenance Recommendations

Setting maintenance policies, priorities, and service standards is important in order for agencies to avoid inconsistent levels of service across the active transportation network, fragmentation of the network, and/or uncoordinated efforts between off-street and on-street facility maintenance. To have a coherent, continuous winter active transportation network, the maintenance priority for

Table 6.8 Provincial Minimum Winter Maintenance Standards

Class of Highway or Adjacent Highway	Depth	Deployment Time Bicycle Lanes	Deployment Time Roadways
1	2.5 cm	8 hours	4 hours
2	5 cm	12 hours	6 hours
3	8 cm	24 hours	12 hours
4	8 cm	24 hours	16 hours
5	10 cm	24 hours	24 hours

facilities should be based on contiguous routes, independent of road maintenance priority.

Certain on-street cycling facilities such as shared or painted bike lanes can be serviced by existing roadway snow clearing, however additional off-street facilities like sidewalks, and multi-use paths may require additional sidewalk plows to adhere to the City's current winter maintenance standards.

Clarence-Rockland should develop snow maintenance standards for the cycling network, amended to the City's Winter Control Policy, that identify a facility classification system and an associated winter maintenance standard for each to maintain satisfactory facility safety levels. This will require re-evaluation of equipment requirements to service varied infrastructure.

6.3.5 Downtown Parking Management

The existing downtown core of Rockland does not provide any municipally owned surface parking beyond on-street spaces, which are duration regulated during certain times of certain days, not priced. As Rockland continues to grow,, there will likely be additional demand for vehicular parking in the main commercial area. There is currently limited land to build a publicly owned off-street surface lot, which presents constraints for future public parking provision.

We recommend a proactive approach to parking management that starts with the preparation of a parking improvement plan for the Rockland settlement area that inventories on- and off-street parking availability and demand while projecting future demand and identifying opportunities for development that is spatially and temporally compatible with the City's parking supply.

The study associated with such a plan should also consider the following potential issues and management techniques:

- **Demand Priced Parking** — Compare the actual parking occupancy with the desired on/off-street parking occupancy and periodically adjust pricing accordingly.
- **Optimization of Existing Off-Street Facilities** — Use underutilised space such as corners, edges, and undeveloped land to increase the parking supply.
- **Remote Parking** — Use of parking facilities located at the periphery of a business district or other activity centre. Special shuttle buses, or free transit service, may be provided to connect destinations with remote parking facilities, which would allow them to be farther apart than would otherwise be acceptable.
- **Parking Space Sharing and Leasing** — Facilitation of shared parking agreements, leases and/or trade of excess private parking capacity.
- **Transferable Parking Rights** — Flexibility in site plan application to choose between constructing required parking spaces or transferring parking spaces to another development.
- **Unbundled Parking —** Making optional the purchase or rent of accessory parking spaces for new residential or commercial units.
- **Online Information and Wayfinding Signage —** Guide drivers and reduce confusion about parking options, payment, and restrictions. Clearly identify lots that are publicly accessible and discourage noncompliance.
- **Streetscaping and Landscaping —** Improve the pedestrian environment to serve motorists using more distant parking lots as well as those walking as a mode of transportation, which relieves parking demand.
- **Curbside Demand Management** — Designate space along curbs throughout the urban centre to facilitate ridesharing and to govern on-street freight loading activity while preserving other areas for parking needs.
- **Active Transportation Facilities** — Improve walkability to expand the number of parking facilities that serve destinations and increase the feasibility of sharing arrangements, remote parking, and "park once" trips.
- **Emerging Technology** — Determine the role of smart parking management tools in system management.

6.4 Implementation

The Recommended Transportation Improvements and Evaluation Scores table in **Appendix B** consolidates all of the active transportation and roadway physical improvements listed and described in **Sections 6.2.1.1, 6.2.1.2**, and **6.2.2** and includes the following information:

- Improvement Description;
- Project Limits;
- Project Length (in km);
- Phasing (i.e. Short-term, Medium-term, Long-term);
- Construction Cost
- Environmental Assessment Schedule Classification;
- Project Evaluation Scoring

6.4.1 Costs of the Plan

The capital cost of the amended transportation strategy over the next 10 years, inclusive of new road construction, intersection improvements, sidewalks, multi-use paths, off-road trails, and on-street cycling facilities will total approximately $44 million (not including improvements and costs to be incurred by Developers as well as the United Counties). A summary of the costs by timing and responsibility is provided in **Table 6.9**.

Of the total capital costs, over $15.9 million is needed for short-term improvements (<2 years), the great majority associated with improvements to the St-Jean Street/Poupart Road corridor. Nearly $3.8 million will be required in the medium term (2-5 years) while longer term (5-10 years) expenses make up the largest portion of expenses (~$24.3 million), owing generally to the high cost and complexity of creating new corridors through the Expansion Lands and the Rockland West Secondary Area.

While unit capital costs of the various facility and improvement types have increased significantly in just five years, the plan amendment significantly reduces the bottom line cost of implementation compared to the 2019 MMTMP. This is accomplished partially due to the removal of completed projects, through removal of non-core network projects, and modal consolidation in strategic corridors—a greater reliance on multi-use paths in urbanised areas.

The distribution of the municipal cost between roadway/intersection and non-motorized project has shifted compared to the original MMTMP. Bicycle, pedestrian, and multi-use facilities comprise 33 percent of Clarence-Rockland's share of capital expenditures, down from 43 percent in the previous plan. Likewise, projects supporting vehicular travel now constitute 67 percent of estimated costs compared to 57 percent in 2019.

Projects currently characterized as the responsibility of developers are related to the completion of the latest phase of Morris Village. This category is subject to change as a clearer understanding emerges related to the support of future developments.

The large long-term budget listed as the responsibility of the United Counties of Prescott & Russell consists primarily of projects related to County Road 17. Widening this facility between Landry Street in the east and the western limit of Clarence-Rockland is the single most expensive project in the plan by an order of magnitude.

Finally, note that larger projects that require additional environmental assessment ahead of implementation (Schedule B, Schedule C) carry further consulting/ engineering costs to complete necessary study, planning, and technical documentation. Costs for these professional services can vary greatly depending on the scope of assessment required for any particular project.

Table 6.9 Estimated Capital Programming Costs by Phase and Jurisdiction

Phasing	Clarence-Rockland	Developer Responsibility	United Counties of Prescott & Russell
	Total Cost	Total Cost	Total Cost
Short-Term (<2 years)	**$15,934,336**	**$2,665,519**	**$13,825**
Cycling	$668,007	$9,697	$13,825
Pedestrian	$969,415	$301,061	–
Multi-Use	$1,064,126	$260,423	–
Roadway	$8,158,976	$2,094,339	–
Intersections	$5,073,812	–	–
Medium-Term (2-5 years)	**$3,797,676**	**$15,783,515**	**$4,183,048**
Cycling	–	–	$4,183,048
Pedestrian	$1,229,207	$1,806,363	–
Multi-Use	$1,768,469	$4,307,750	–
Roadway	–	$9,669,402	–
Intersections	$800,000	–	–
Long-Term (5-10 years)	**$24,290,756**	**–**	**$45,686,341**
Cycling	$1,040,329	–	$9,153,807
Pedestrian	$3,424,614	–	–
Multi-Use	$4,285,352	–	$2,365,838
Roadway	$15,140,460	–	$34,166,696
Intersections	$400,000	–	–
Total	**$44,022,768**	**$18,449,034**	**$49,883,213**

NOTE: *All figures in 2024 dollars ($) excluding tax, contingency, design and approvals costs. Preliminary estimate subject to further review at preliminary/detailed design stage.*