

RE-ENVISIONING THE SIR GEORGE-ÉTIENNE CARTIER PARKWAY: A LINEAR PARK PLAN

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Re-Envisioning The Sir George-Étienne Cartier Parkway: A Linear Park Plan

By

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SURP 824 Project Course

December 21st, 2020

School of Urban and Regional Planning

Department of Geography and Planning

Queen's University







ACKNOWLEDGEMENTS

The project team would like to thank:

Sylvie Lalonde and **Patricia McCann-MacMillan** for their expertise and guidance throughout the project, as well as their consistent encouragement.

Andrew Sacret for engaging our team throughout the course of the project.

The **Capital Planning Branch** at the National Capital Commission for providing resources, their expertise, and constructive feedback.

Dr. David Gordon for his supervision, expertise, and mentorship over the course of the project. We would also like to acknowledge his constant support and coaching during the most pressing moments.

Dr. Elizabeth Macdonald for joining us from UC Berkeley to attend our planning workshop and share her expertise in urban design with our team. Her advice and guidance on how to approach the design for this project was instrumental to the production of a successful project.

The **National Capital Commission** for allowing the Queen's School of Urban and Regional Planning, as well as our project team, the opportunity to participate in this project. We would also like to acknowledge the number of staff that made themselves available for all of our questions; it is truly appreciated.

We would also like to thank the following organizations for engaging with our team during the course of the project, whether that be in the stakeholder interviews, the planning workshop, or presentations. Your feedback, advice and knowledge were instrumental in creating the basis on which our design recommendations stand. Your enthusiasm for our project was contagious. You inspired us to create a framework you can be proud of and use in the future:

- City of Ottawa
- Rideau Valley Conservation Authority (RVCA)
- Société franco-ontarienne du patrimoine et de l'histoire d'Orléans (SFOPHO)

EXECUTIVE SUMMARY

Re-Envisioning the Sir George-Étienne Cartier Parkway: Project at a Glance

This project is the result of three months of work from nine students in the School of Urban and Regional Planning at Queen's University. Our project team was tasked by the National Capital Commission with re-envisioning the Sir George-Étienne Cartier Parkway in the east end of Ottawa through the creation of design guidelines and strategies that would put the "park" back into the "parkway". The project team conducted stakeholder interviews, a planning workshop, and detailed research and analysis of both the site and best practices to inform the guidelines and strategies presented in this report. These guidelines and strategies were incorporated in three demonstration plans, which illustrate our vision to elevate the Parkway corridor into a place where people of all ages, interests and abilities come and enjoy themselves.

Parkway Background

The Sir George-Étienne Cartier Parkway (SGEC) runs along the south shore of the Ottawa River for approximately thirteen kilometres, from Rideau Hall at the western limit to St. Joseph Boulevard in the east. The corridor itself extends just beyond the roadway to the Ottawa River Lookout in the Greenbelt in the community of Orléans. The SGEC Parkway constitutes the former Rockcliffe Parkway and the former Eastern Parkway. It runs along six different neighbourhoods, with many contributing built heritage assets and activity nodes along the corridor. The western portion of the Parkway runs from Ottawa's downtown and is urban and then transitions to a more natural and rural context as one travels east. While the existing pathway system mostly supports active transportation through the site, some pathways are not connected, resulting in certain areas of the Parkway being difficult to access.

The Sir George-Étienne Cartier Parkway is an extremely valuable public space within the National Capital Region. It provides lush natural beauty, picturesque views, and diverse recreational activities to Ottawans. The Parkway plays a critical role in ensuring the Capital Region's waterfront remains in the public realm. With the proposed changes outlined in this report, the team worked to further enhance these existing qualities on the Parkway, while addressing some of its drawbacks.

Existing Conditions

The Sir George-Étienne Cartier Parkway is a busy road used primarily as a commuter route from the east end of Ottawa (Orléans) to the downtown core. Vehicles on the roadway often exceed the 60 km/h speed limit. No public transit vehicles run directly on the Parkway, with transit servicing concentrated outside of the site. Although automobiles use this route daily, there are also a number of people who use this corridor to commute via active transportation (i.e. cycling).

There are a variety of activity nodes and recreational destinations throughout the Parkway corridor. Some of these are well-known, while others are hidden and less known. Many of these destinations are located along the north side of the Parkway between the roadway and the Ottawa River.





Rockcliffe Rockeries.

Strength, Weaknesses, Opportunities and Challenges of the Site

The SWOC informed the proposed design guidelines to include site opportunities and mitigate challenges. The designs incorporated the existing strengths of the site, while addressing weaknesses, which became strengths in the proposed designs.

 Strengths (Internal) Views and scenic landscapes Continuous waterfront Rich cultural and natural heritage Long pedestrian and cycling routes 	 Weaknesses (Internal) Discontinuous active transportation routes Safety issues faced by pedestrians and cyclists Limited direct access to the water Lack of wayfinding throughout the corridor
 Opportunities (External) Existing pathways can be enhanced for accessibility Many existing historical and nationally significant sites located near and within the corridor Open green space for more recreation activities and active transportation connections 	 Challenges (External) Lack of local street and public transportation access to the corridor Roadway is heavily used by fast-moving commuters Climate change causing more frequent flooding

Policy Analysis

The team analyzed 25 relevant documents to better understand the policy context of the Parkway. The existing Parkway's compliance with these policy documents was assessed and compared to the Parkway's compliance when the team's proposed changes are accounted for. The adjacent table shows a variety of policies that were analyzed and their existing and proposed conditions in terms of compliance.

Poor compliance is indicated in red, moderate compliance is indicated in yellow, and high compliance is indicated in green.

SGEC Corridor Policy Compliance		
	Existing	Proposed
National Capital Commission Policy	Comp	liance
Greenbelt Master Plan (2013)		
Capital Urban Lands Plan (2015)	15)	
Plan for Canada's Capital (2017)		
*Draft Parkway Policy Update (2020)		
Capital Pathway Strategic Plan (2020)		
Other Notable Policies	Compliance	
City of Ottawa Greenspace Master Plan (2006)		
City of Ottawa Pedestrian Plan (2013)		
City of Ottawa Cycling Plan (2013)		

Precedents Research

The team analyzed 46 precedent examples from around the world to provide inspiration for proposed design elements on the Parkway. The 46 precedents were narrowed down to 30 case studies which are presented in the adjacent table. A variety of parks, parkways, trails, and promenades were examined by the team, with best (and worst) practices taken from each. The primary takeaway from the precedents was that diverse, well-programmed activity nodes and recreational areas are not mutually exclusive from environmental protection and nature preservation. In fact, a balance between these elements is at the heart of creating an excellent parkway. This takeaway was part of what guided the team's formulation of design ideas for the SGEC corridor.

30 Case Studies for	the SGEC Parkway
Benjamin Franklin Parkway, Philadelphia, PA	Promenade Samuel de Champlain, QC
Brooklyn Bridge Park Promenades, Brooklyn, NY	Queens Quay, Toronto, ON
Central Waterfront Promenades, Bilbao, Spain	Riverfront Parkway, Chattanooga, TN
George Washington Memorial Parkway, Washington, D.C.	Venice Beach Boardwalk, Los Angeles, CA
Stanley Park, Vancouver, BC	Discovery Walks and "The Shared Path", Toronto, ON
McCall Waterfront Park & Katz Esplande, Portland, OR	Don River Valley Parks & Lower Don Trail, Toronto, ON
Beach Boardwalk, Toronto, ON	Emerald Necklace, Boston, MA
Eastern Parkway, Brooklyn, NY	Gatineau Park, Gatineau, QC
Golden Gate Promenade, San Francisco, CA	Great Lakes Waterfront Trail, Ontario
Hudson River Park Promenade, Manhattan, NY	Linear Park of Rivière St-Charles, Ville de Québec, QC
Joe Riley Waterfront Park, Charleston, SC	Ottawa River South Shore Riverfront Park, Ottawa, ON
Lake Shore Boulevard, Toronto, ON	Ibirapuera Park, São Paulo, Brazil
Lake Wilcox Park, Richmond Hill, ON	Vancouver Waterfront Promenade, Vancouver, BC
Passeig Maritim, Barcelona, Spain	Arroyo Seco Parkway, Pasadena, CA
Passeio das Tagides & Passeio do Tejo, Lisbon, Portugal	Don Valley Parkway, Toronto, ON

Vision for the SGEC Parkway Corridor

"A distinctive riverfront parkway that celebrates the environmental and cultural heritage of the Ottawa River and is sustainably designed for users of all ages and interests"

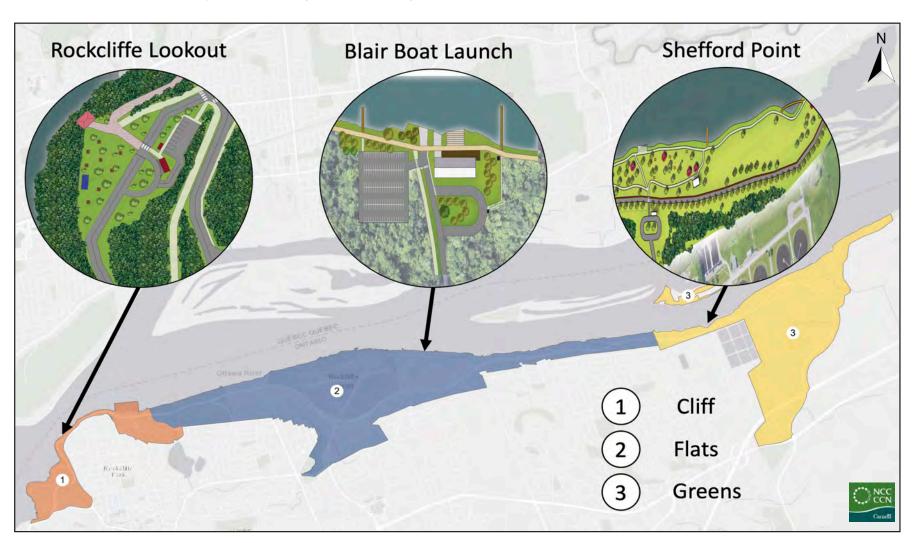
Planning Principles	Planning Themes	
• Environment	◆ Roadway	
 Heritage 	◆ Gateways	
 Connectivity 	◆ Pathways	
◆ Safety	◆ Waterfront	
• Accessibility	◆ Nodes	
• Recreation		

Corridor-Wide Improvements

- Improve views to the river
- Improve riparian habitat along the River and Green's Creek
- Setback pedestrian pathway from flood plain and water's edge
- Add separated cycle lanes to roadway for commuter cyclists
- Enhance multi-use pathway for winter skiing and snowshoeing

Demonstration Plans for Three Character Area Nodes

- The Cliff natural heritage in an urban context
- The Flats recreation and water access
- The Greens conservation and ecological protection



Implementation Timeline

The phasing of the project, as seen below, prioritizes direct-impact projects in the short term, whereas major infrastructure changes were reserved for the medium to long-term as additional plans, strategies and consultation will be required. Optimal results for the project will be met if the full suite of features is implemented.

Design Features	Short Term (within 5 years)	Medium Term (5-10 years)	Long Term (10-15 years)
Wayfinding & Educational Signage			
Programming			
Commercial Opportunities			
Warming & Rest Stations			
Winter Maintenance of Cycle Lanes, Multi-use Pathway & Parking			
Recreational Facilities			
Gateway Features (through Public Art)			
Universal Accessibility			
Views - Creation & Protection			
Waterfront Access Points			
Erosion & Flood Mitigation			
Tree Replanting			
Promenade Pilot Program			
Crossings (Pedestrian & Vehicle; Signalized & Yield)			
Commuter Cycle Lanes			
Road Realignment			
Narrowing of Traffic Lanes			
Pathway Extensions and Widening			
New Neighbourhood Connections to the Site			
Transit Connections			
Green's Creek Bridge			

Conclusion

The SGEC Parkway is a critical natural feature in the National Capital Region, acting as a gateway to Downtown Ottawa and to the Greenbelt. By enhancing the key strengths of the site and addressing some shortcomings, the team sought to demonstrate the Parkway's potential to become a nationally-recognized linear park, where people of all ages, interests, and abilities can gather. The team focused on planning for the environment and for people, creating a place that is safer and easier to access for everyone. The team's vision for the Parkway will ensure that it will remain a space that is cherished and enjoyed by all for generations to come.

RÉSUMÉ

Ré-imaginer la promenade Sir-George-Étienne-Cartier : Projet en un coup d'œil

Ce projet est le résultat de trois mois de travail par neuf étudiants de l'École de planification urbaine et régionale de l'Université Queen's. Notre équipe de projet a été chargée par la Commission de la capitale nationale de ré-imaginer la promenade Sir-George-Étienne-Cartier dans l'est d'Ottawa en créant des recommandations et des stratégies qui remettraient le « parc » dans la « promenade ». L'équipe du projet a mené des entrevues avec les parties prenantes, un atelier de planification, ainsi qu'une recherche et une analyse détaillée de site et des meilleures pratiques pour façonner les lignes directrices et les stratégies présentées dans ce rapport. Ces lignes directrices et stratégies ont été incorporées dans trois plans de démonstration, qui illustrent notre vision d'élever le corridor de la promenade en un lieu où les gens de tous âges, intérêts et capacités viennent s'amuser.

Contexte de promenade

La promenade Sir-George-Étienne-Cartier (SGEC) longe la rive sud de la rivière des Outaouais sur environ treize kilomètres, de Rideau Hall à la limite ouest jusqu'au boulevard Saint-Joseph à l'est. Le corridor lui-même s'étend juste au-delà de la route jusqu'au belvédère de la rivière des Outaouais dans la Ceinture de verdure dans la communauté d'Orléans. La promenade SGEC constitue l'ancienne promenade Rockcliffe et de l'ancienne promenade de l'est. Il s'étend le long de six quartiers différents, avec de nombreux actifs du patrimoine bâti et des pôles d'activités contribuant à la promenade. La section ouest de la promenade est située dans un contexte plus urbain et évolue vers un contexte plus naturel et rural à mesure que l'on se déplace vers l'est. Bien que le réseau de sentiers existants favorise le transport actif à travers le site, certains sentiers ne sont pas connectés, ce qui rend certaines zones de la promenade difficile d'accès.

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Conditions existantes

La promenade Sir-George-Étienne-Cartier est une route très fréquentée principalement utilisée comme un itinéraire de banlieue entre l'extrémité est d'Ottawa (Orléans) et le centre-ville. Les véhicules sur la chaussée dépassent souvent la limite de vitesse de 60 km/h. Aucun véhicule de transport en commun ne circule directement sur la promenade, les services de transport en commun étant concentré à l'extérieur du site. Bien que les automobiles utilisent cet itinéraire quotidiennement, il y a aussi un certain nombre de personnes qui utilisent ce corridor pour se déplacer en transport actif (particulièrement le cyclisme).

Il existe une variété de pôles d'activités et de destinations récréatives dans le corridor. Certains d'entre eux sont bien connus, tandis que d'autres sont moins visibles et connus. Un certain nombre ces destinations sont situées le long du côté nord de la promenade entre la chaussée et la rivière des Outaouais.





Les Rocailles de Rockcliffe.

Forces, faiblesses, opportunités et défis du site

La grille d'analyse a guidé les lignes directrices proposées qui offrent des opportunités aux sites et atténuer les défis. Les concepts ont incorporés les forces existantes du site, tout en remédiant aux faiblesses, qui sont devenues des forces dans les concepts proposés.

Forces (interne)	Faiblesses (interne)
 Vue et paysages pittoresques 	Routes de transport actif discontinues
 Bord de l'eau continu Un riche patrimoine culturel et naturel Long sentiers pour piétons et cyclistes 	 Les problèmes de sécurité auxquels sont confrontés les piétons et cyclistes Accès direct limité à l'eau Manque d'orientation dans le corridor
 Opporunités (externe) Les sentiers existants peuvent être améliorés pour l'accessibilité De nombreux sites historiques et d'importance nationale existants situés à proximité et à l'intérieur du corridor Espace vert pour plus d'activités récréatives et de liens au transport actif 	 Défis (externe) Manque d'accès aux rues locales et aux transports en commun dans le corridor La route est très utilisée par les navatteurs rapides Changement climatique provoquant des inondations plus fréquentes

Analyse des politiques

L'équipe a analysé 25 documents pertinents afin de mieux comprendre le contexte des politiques concernant la promenade. La conformité de la promenade existante à ces documents de politiques a été évaluée et comparée à la conformité de la promenade lorsque les modifications proposées par l'équipe sont prises en compte. Le tableau ci-contre montre une variété de politiques qui ont été analysées et les conditions existantes et proposées du corridor en termes de conformité.

Une médiocre conformité est indiquée en rouge, une conformité modérée est indiquée en jaune et une haute conformité est indiquée en vert.

Conformité à les politiques du corridor SGEC		
Politiques de la Commission	Existant	Proposé
de la capitale nationale	Conformité	
Greenbelt Master Plan (2013)		
Capital Urban Lands Plan (2015)		
Plan for Canada's Capital (2017)		
*Draft Parkway Policy Update (2020)		
Capital Pathway Strategic Plan (2020)		
Autre politiques notables	Conformité	
City of Ottawa Greenspace Master Plan (2006)		
City of Ottawa Pedestrian Plan (2013)		
City of Ottawa Cycling Plan (2013)		

Recherche sur les précédents

L'équipe a analysé 46 exemples précédents du monde entier afin de fournir une inspiration pour les éléments de designs proposés sur la promenade. Les 46 précédents ont été réduits à 30 études de cas qui sont présentées dans le tableau ci-contre. Une variété de parcs, de promenades et de sentiers ont été examinés par l'équipe, puis les meilleures (et les pires) pratiques étant tirées de chacun. La principale conclusion à tirer des précédents était que des pôles d'activités et des espaces de loisirs diversifiés et bien programmés ne sont pas mutuellement exclusifs de la protection de l'environnement et de la préservation de la nature. En fait, un équilibre entre ces éléments est au cœur de la création d'une excellente promenade. Ce résultat faisait partie de ce qui a guidé l'équipe dans la formulation d'idées de design pour le corridor SGEC.

30 études de case pou	ır la promenade SGEC
Benjamin Franklin Parkway, Philadelphia, PA	Promenade Samuel de Champlain, QC
Brooklyn Bridge Park Promenades, Brooklyn, NY	Queens Quay, Toronto, ON
Central Waterfront Promenades, Bilbao, Spain	Riverfront Parkway, Chattanooga, TN
George Washington Memorial Parkway, Washington, D.C.	Venice Beach Boardwalk, Los Angeles, CA
Stanley Park, Vancouver, BC	Discovery Walks and "The Shared Path", Toronto, ON
McCall Waterfront Park & Katz Esplande, Portland, OR	Don River Valley Parks & Lower Don Trail, Toronto, ON
Beach Boardwalk, Toronto, ON	Emerald Necklace, Boston, MA
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Joe Riley Waterfront Park, Charleston, SC	Ottawa River South Shore Riverfront Park, Ottawa, ON
Lake Shore Boulevard, Toronto, ON	Ibirapuera Park, São Paulo, Brazil
Lake Wilcox Park, Richmond Hill, ON	Vancouver Waterfront Promenade, Vancouver, BC
Passeig Maritim, Barcelona, Spain	Arroyo Seco Parkway, Pasadena, CA
Passeio das Tagides & Passeio do Tejo, Lisbon, Portugal	Don Valley Parkway, Toronto, ON

Vision pour le corridor de la promenade SGEC

« Une promenade riveraine distinctive qui célèbre le patrimoine environnemental et culturel de la rivière des Outaouais et qui est conçue de manière durable pour les utilisateurs de tous âges et intérêts »

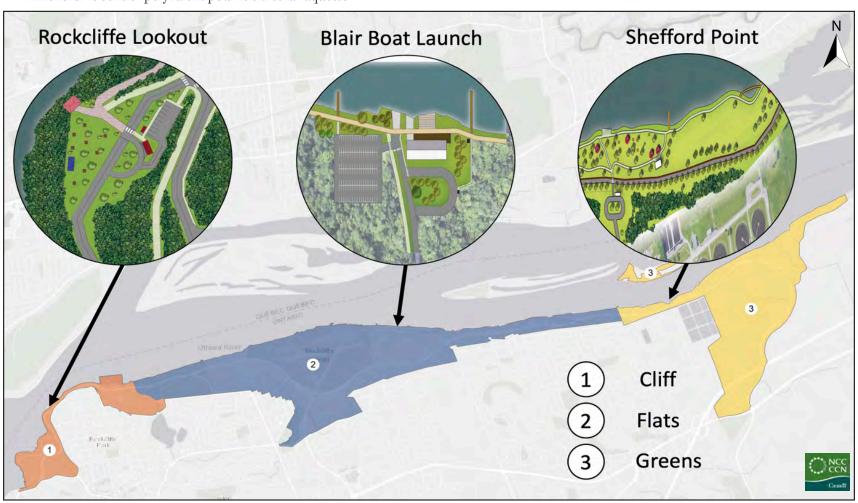
Principes d'urbanisme	Thèmes d'urbanisme	
 ◆ environnement 	 ◆ chaussée 	
• patrimoine	• points d'entrées	
◆ connectivité	• sentiers	
◆ sécurité	◆ front de l'eau	
 accessibilité 	 pôles d'activités 	
• récréation		

Améliorations à l'échelle du corridor

- Améliorer les vues sur la rivière
- Améliorer l'habitat aquatique le long de la rivière et du ruisseau de Green
- Sentier piétonnier en retrait de la plaine inondable et du bord de l'eau
- Ajouter des pistes cyclables séparées à la chaussée pour les cyclistes de banlieue
- Améliorer le sentier polyvalent pour le ski et la raquette

Plans de démonstration pour les trois pôles selon les zones de caractère

- La falaise patrimoine naturel en contexte urbain
- Les terrain plat récréation et accès à l'eau
- Les verts conservation et protection écologique



Chronologie de mise en œuvre

La mise en œuvre du projet, comme indiquée ci-dessous, donne la priorité aux projets à impact direct à court terme, tandis que les changements d'infrastructure majeurs ont été réservés pour le moyen à long terme car des plans, des stratégies et des consultations supplémentaires seront nécessaires. Les résultats optimaux pour le projet seront atteints si la suite complète de caractéristiques est mise en œuvre.

Caractéristiques de conception	Court terme (< 5 ans)	Moyen terme (5-10 ans)	Long terme (>10 ans)
Signalisation d'orientation et pédagogique			
Programmation			
Opportunités commerciales			
Stations de réchauffement et de repos			
Entretien hivernal des pistes cyclables, sentier multi-usage et parking			
Installations récréatives			
Fonctionnalités des points d'entrées (via l'art public)			
Accessibilité universelle			
Vues - Création et protection			
Points d'accès au bord de l'eau			
Atténuation de l'érosion et des inondations			
Replanter des arbres			
Programme pilote de promenade			
Passages (pour les piétons et véhicules; signalisé et rendement)			
Piste cyclables de banlieue			
Réalignement des routes			
Rétrécissement des voies de circulation			
Extensions et élargissement des sentires			
Nouvelles connexions de quartier avec le site			
Connexions de transport en commun			
Pont du ruisseau de Green			

Conclusion

La promenade SGEC est un élément naturel essentiel de la région de la capitale nationale, servant de porte d'entrée au centre-ville d'Ottawa et à la Ceinture de verdure. En améliorant les principaux atouts du site et en remédiant à certaines lacunes, l'équipe a démontré le potentiel de la promenade à devenir un parc linéaire reconnu à l'échelle nationale, où des personnes de tous âges, intérêts et capacités peuvent se rassembler. L'équipe s'est concentrée sur l'urbanisme de l'environnement et des personnes en créant un lieu plus sûr et plus facile d'accès pour tous. La vision de l'équipe pour la promenade garantira qu'elle restera un espace qui est chéri et apprécié par tous pour les générations à venir.

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Maps, Figures, and Images not cited throughout the report are the creation of the SURP 824 Project Team.

All Maps created by the SURP 824 Project Team were made with base layers provided by the National Capital Commission. Water and road base layers used in the maps and figures were obtained from Statistics Canada:

Statistics Canada. (2019). *Road Network File, 2019.* Statistics Canada Catalogue no. 92-500-X.

Statistics Canada. (2019). *Census Lakes and Rivers Boundary File*. 2016 Census. Statistics Canada Catalogue no. 92-160-G.

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LIST OF ACRONYMS

ANSI - Area of Natural and Scientific Interest

AODA – Accessibility for Ontarians with Disabilities Act

CFB - Canadian Forces Base

CIP – Community Improvement Plan

CULP - Capital Urban Lands Plan

GMP - Greenspace Master Plan

IUCN - International Union for Conservation of Nature

LRT – Light Rail Transit

LTS - Level of Traffic Stress

MUP – Multi-use Pathway

NCC - National Capital Commission

NCR - National Capital Region

NRC - National Research Council

OCP – Ottawa Cycling Plan

OIC- Ottawa Improvement Commission

ONEC- Ottawa New-Edinburgh Club

OP - Official Plan

OPP - Ottawa Pedestrian Plan

ORP- Ottawa River Pathway

RCMP - Royal Canadian Mounted Police

RVCA - River Valley Conservation Authority

SFOPHO – Société franco-ontarienne du patrimoine et de l'histoire d'Orléans

SGEC – Sir George-Étienne Cartier

SJAM - Sir John A. Macdonald

SURP - School of Urban and Regional Planning at Queen's University

QUEEN'S UNIVERSITY SCHOOL OF URBAN AND REGIONAL PLANNING PROJECT COURSE

This final report is the culmination of the Land Use and Real Estate project course at the School of Urban and Regional Planning (SURP) at Queen's University. This course allows students the opportunity to work alongside planning professionals in both the public and private sectors in a consultant-type role. SURP was engaged by the National Capital Commission (NCC) to re-envision the Sir George-Étienne Cartier (SGEC) Parkway corridor along the Ottawa River. The contents of this report reflect the opinions of Queen's SURP.

The project course required the team to undertake detailed research and analysis of the site, along with stakeholder interviews and a planning workshop. Techniques, theory, and general information learned throughout coursework at SURP, were applied to this project. It should be noted that due to the COVID-19 pandemic, the project course was unable to conduct site visits to undertake in-person field research. Online mapping programs as well as an existing conditions report prepared by Kadence Bunke, a summer intern at the NCC, were used heavily to gain a better understanding of the site.

PROJECT TEAM

Our project team consists of nine individuals with a variety of skill sets and unique background experiences, ranging from geography, planning, environmental science, and political science. The diverse backgrounds make for a dynamic team and has resulted in refreshing and compelling recommendations for the NCC and the SGEC Parkway corridor.



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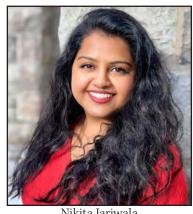
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1.0 Introduction

The National Capital Commission (NCC) engaged Queen's University's School of Urban and Regional Planning (SURP) for the re-envisioning of the Sir George-Étienne Cartier (SGEC) Parkway riverfront corridor as a linear Capital Park. The Parkway served as the focus for the 2020 Land Use and Urban Design Project Course (SURP 824) which encompassed nine Masters of Planning students and a faculty coordinator. The overall objective of the Project Course was to re-envision the SGEC Parkway as a linear park to recommend planning actions to put the "park" back into "parkway".

1.1 Overview

This report provides a comprehensive overview of the research, analyses, vision, and ideas associated with the re-envisioning of the SGEC Parkway, to serve as a preliminary step for the future plans of the NCC. The report provides:

- A comprehensive analysis of existing conditions, including strengths, weaknesses, opportunities and challenges.
- A synthesis of several relevant examples of waterfront linear parks.
- Summaries of stakeholder engagement.
- A vision and planning principles to serve as a foundation for the design concept.
- Demonstration plans for key nodes in the waterfront corridor.
- Design guidelines to protect and enhance the riverfront's environmental, scenic, heritage and cultural features.

1.2 Study Area

The study area for this report is the Sir George-Étienne Cartier parkway corridor. Owned and operated by the NCC, the SGEC Parkway is located along the southeastern edge of the Ottawa River. The Parkway corridor is a 13 kilometre stretch of scenic green space, comprising approximately 587 hectares of public lands. It accommodates a two-lane bidirectional roadway, multi-use pathways along the riverfront, lookout points (such as the Rockcliffe Lookout), and environmentally significant areas.

The northern edge of the corridor is bounded by the Ottawa River, providing a continuous waterfront to the study area. The southern edge is bounded by private properties and the National Research Council, the Canadian government's primary research and

technology facility. The SGEC Parkway is adjacent to many neighbourhoods, from Rockcliffe Park to Orléans, with limited linkages from these communities to the site.

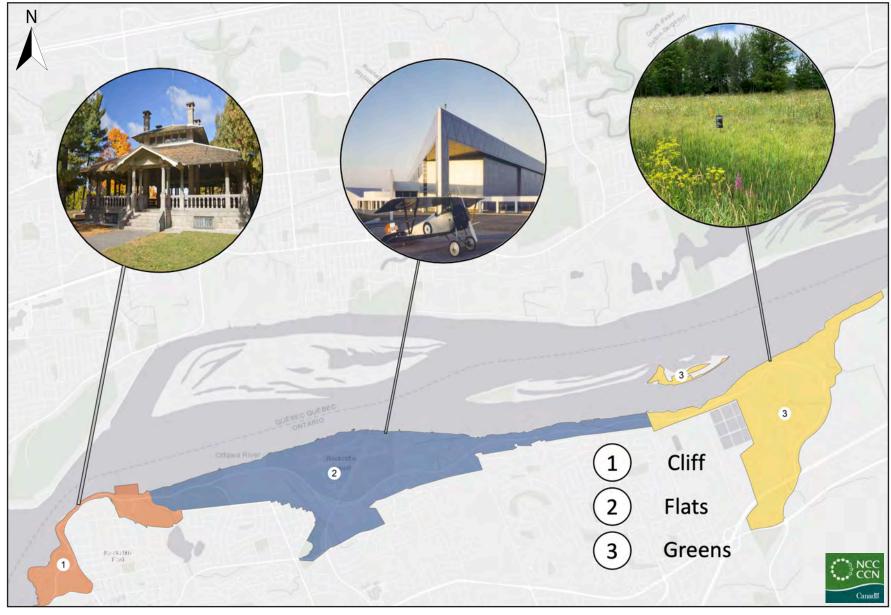
The SGEC Parkway serves as an important corridor between central and eastern Ottawa, transitioning across the urban to rural transect. The corridor connects Confederation Boulevard and the downtown core, to the west, and Orléans at the eastern edge. While there are urban communities surrounding the corridor, the parkway is not intended as a commuter roadway, but rather a

scenic route, offering natural views at a relaxed pace. The western gateway of the corridor is marked by a roundabout intersecting with the Rockcliffe Driveway, Princess Avenue, and the commencement of the SGEC Parkway. The Parkway travels north of the Royal Canadian Mounted Police stables and past the Canada Aviation and Space Museum, among other destinations. The eastern-most segment of the Parkway is encompassed by the Greenbelt and intersects Green's Creek, a tributary of the Ottawa River.

The SGEC Parkway is intended to deliver a "parkway experience" to residents, citizens, and international visitors through ample scenic opportunities which reveal themselves while traveling along the site's winding roads and pathways. It is a place of historical and cultural significance, where features should display Ottawa as the green capital and enhance Canadian imagery and identity.



Map 1: Map of the SGEC study area. The NCC lands are indicated in green, while the yellow border indicates the study area for this project.(NCC, 2020)



Map 2: Three character areas which make up the SGEC Parkway study area.

1.3 Character Areas

The study area has been separated into three character areas: Cliff, Flats, and Greens. These character areas were chosen based on the topographical and ecological differences seen throughout the Parkway; each area has its own unique opportunities and challenges. This division of the study area will allow for a closer look at the existing conditions and features for each section of the SGEC Parkway. Future design proposals will consider the individual character areas.

Character Area 1: The Cliff

The first character area is located in the westernmost part of the study area. Rideau Hall and the official residences form the gateway to this character area and the study area as a whole. This character area is the most urban part of the study area, comprised of old, established neighborhoods and residential parks. Many of the key landmarks of the study area are located here, such as Rideau Hall, National Capital River Pavilion (previously the ONEC Boathouse), Rockcliffe Boathouse Restaurant and Marina, Rockcliffe Park, Rockcliffe Lookout, and the Rockeries. Additionally, there are a number of heritage, or "remarkable" trees identified in this area. The topography of the character area is unique as it is on a high cliff facing the river, giving it its name (Figure 1). Overall, there is a strong focus on natural and built heritage in an urban context in this character area.



Image 1: SGEC Parkway leading to Rockcliffe Lookout.

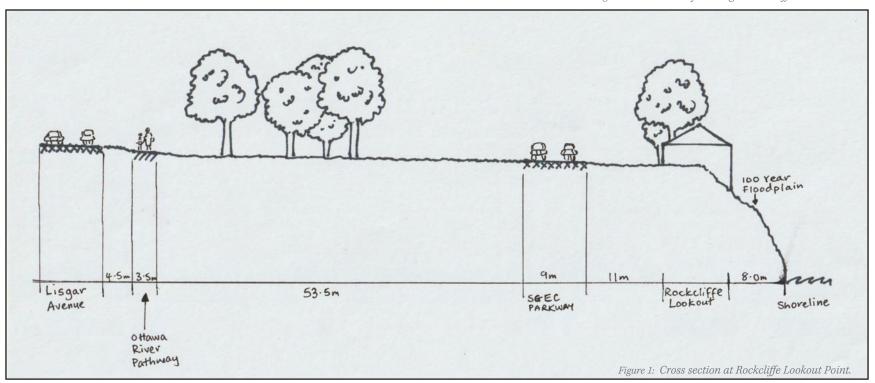
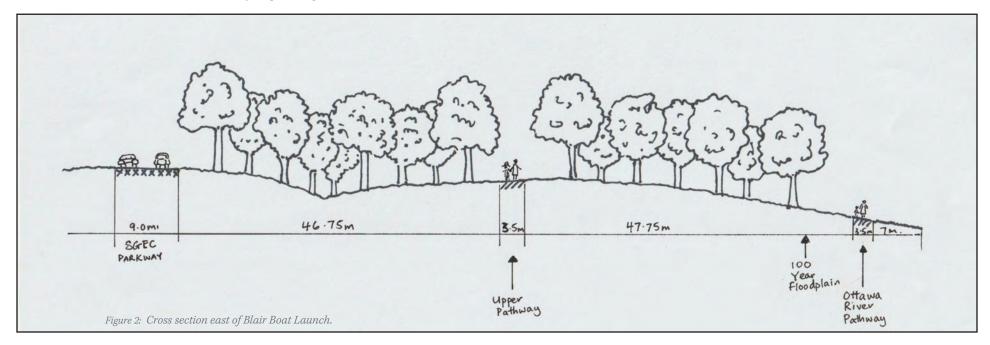




Image 2: Blair Boat Launch provides direct access to the water. Pedestrian and cycling markings visible.

Character Area 2: The Flats

The second character area begins at Hillsdale Road, east of Rockcliffe Park, and ends at Shefford Road, immediately west of the Robert O. Pickard Environmental Centre. The Flats encompass the transition from urban in the west to rural in the east within the study area. This character area is focused on passive recreation with its open fields, trails, and water access. The Lower Pathway runs along the water in this character area. The Flats face challenges of water access due to the steep grade change as well as shoreline erosion due to flooding. The Flats also have institutional lands which include two points of interest: the Royal Canadian Mounted Police (RCMP) Stables and the Canada Aviation and Space Museum. Other key destinations include the Blair Boat Launch, Rockcliffe Flying Club, and Rockcliffe Yacht Club. Overall, there is a strong focus on recreation and water access in this second character area.

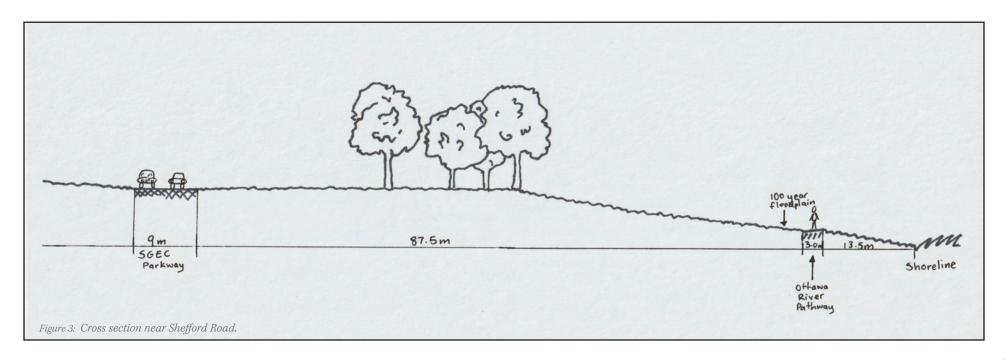


Character Area 3: The Greens

The third character area, the Greens, is located in the eastern-most part of the study area, comprised mostly of Greenbelt lands with a small portion of urban lands and open green space . The character area starts at Shefford Road and ends at the start of Orléans, at Voyageur Drive. The Greens character area has a rural context, including an eastern portion of agricultural lands that have been leased to farm tenants by the NCC. Green's Creek and Lower Duck Island, located in this character area, are environmentally sensitive areas with important natural water features and habitats for multiple species at risk. In this character area, the SGEC roadway turns abruptly southward, after crossing Green's Creek, and runs parallel to Green's Creek, while the pathway extends east to Orléans. Overall, the primary focus for the Greens is conservation and ecological protection to maintain the rural context of the area.



Image 3: View of Lower Duck Island where the SGEC Parkway gets close to the water (Google, 2019).



References

Google. (2019). [Google Map view of Lower Duck Island from the SGEC Parkway].

National Capital Commission. (2020). Sir George-Étienne Cartier Linear Park: Study area.

2.0 CONTEXT

2.1 History

The Ottawa River valley has a long and rich history with human occupation in the area dating back at least 8,000 years (Harris, 1987; Gordon, 2015). The Anishinabek (Algonquin) First Nation history is tied intrinsically to the Ottawa River, living a semi-nomadic lifestyle hunting and gathering food and moving camps as required (Gordon, 2015). They relied on the Ottawa River for transportation and trade with other Nations (Gordon, 2015).

Today, however, the Ottawa River valley remains unceded land, and the Anishinabek (Algonquin) were forced to split into several communities when European settlers established the boundaries between Upper and Lower Canada. The Ottawa River remains an important part of First Nation and Canadian heritage as its unwavering natural beauty and economic capacity have helped shape the country into what it is today.

The City of Ottawa was chosen as Canada's capital by recommendation of the Queen in 1857 and construction of the Parliament Buildings fit for this young Province began in 1859 (Gordon, 2015). The beauty of the capital had been apparent from the beginning, with Chaudière Falls, Rideau Falls, and seemingly endless forest.

The Federal Plan Commission (1915) recognized the beautiful landscapes in Ottawa and explained that they are an invitation to create the most beautiful capital in the world (Federal Plan Commission, 1915). However, the selection of Ottawa as the capital flooded the valley with new settlers, presenting the inhabitants with new and unfamiliar challenges.

Ottawa's beginning as the capital was uncertain, there was little support for grand plans and as such the City was designed to be a manufacturing town rather than a capital (Federal Plan Commission, 1915). With no plan for development in the Capital region, buildings went up without foresight. Things began to change in the late 1800's. In 1893, then Prime Minister Wilfrid Laurier promised to make Ottawa worthy to be the capital of Canada by making it as attractive of a city as it could possibly be. In 1899, the Ottawa Improvement Commission (OIC) was formed, tasked with improving and beautifying the City of Ottawa; this was the first step in the federal government taking the lead on planning and developing the Capital Region (Gordon, 2015).

The OIC began making improvements to the Capital immediately – following the tenets of the "Parks Movements" – by building parks and public spaces.

Furthering the commitment of the OIC to beautifying Ottawa, the services of landscape architect Frederick Todd were retained in 1903. In Todd's Preliminary Report to the Ottawa Improvement Commission (1903) he cautions the City of emulating other plans too closely as cities must take advantage of their own unique characteristics and natural beauty. He also remarks on the importance of planning ahead in the provision of natural space. Todd proposed a series of large natural parks, parkways, waterways, and city parks. He noted that at the present course, much of the natural beauty of the city would be lost (Todd, 1903). Although not adopted by the OIC, Todd's ideas were found in and built upon in subsequent federal plans: Report of the Federal Plan Commission on a General Plan for the Cities of Ottawa and Hull (1915) and Gréber's Plan for the National Capital (1950) (Gordon, 2001; Gordon 2015).



Image 4: Chaudière Falls was an important spiritual place for Indigenous Peoples, and European settlers were captivated by its beauty and power. Later, the logging industry harvested the power of the Chaudière Falls to power their lumber mills (Ingrey, 1830).

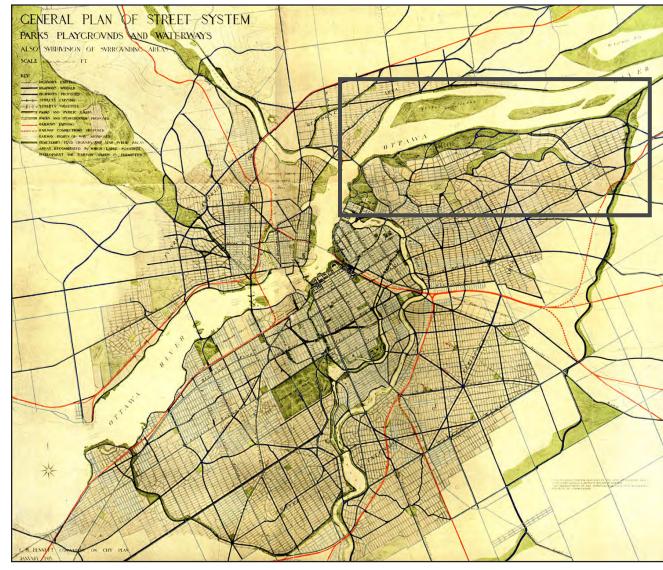




Image 5: Bennett's "General Plan of Street System" from 1915 (above). The SGEC study area in Bennett's Plan (left). The street system plan shows a proposed fifth crossing near the Rockcliffe Lookout, large open space along the SGEC Parkway and waterfront, as well as a continuation of the Rockcliffe Parkway eastward to Orléans (Bennett, 1914).

In 1927, the OIC was renamed as the Federal District Commission and in 1958 it was replaced by a National Capital Commission (NCC).

Renowned French architect Jacques Gréber was personally recruited by Prime Minister Mackenzie King to realize his dreams of an inspiring Capital. Gréber's 1939 Downtown plan combined ideas from both Bennett's and Cauchon's previous plans. This plan was never fully implemented due to the outbreak of the Second World War. However, King's dreams of an inspiring Capital never left. In 1945, Gréber was once again asked to propose a new vision for the Capital, this time at a much larger scale. The architect's new scope of work was widened to encompass an expanded Capital Region of over 2300 square kilometres which included both the Ottawa and Quebec sides of the river. Gréber's new plan built upon Todd's (1903) plan to include more open space in the region. In addition, it proposed the idea of a 4-kilometre-wide greenbelt that surrounded Ottawa and the future built up area to concentrate urbanization and limit urban sprawl. Gréber's Plan is credited with proposing the relocation of industries and railways from the core of the city to the suburbs (Gordon, 2015).

The newly formed NCC moved quickly to implement Gréber's 1950 Plan and started to buy and expropriate land in vast quantities to ensure the Capital Region's urban form would be shaped accordingly. The Plan also proposed the expansion of what is now known as Gatineau Park in addition to a park system, the decentralization of government offices to the suburbs, and slum clearance of LeBreton Flats. Gréber's (1950) plan has vastly influenced the physical landscape of Ottawa today (Gordon, 2015). These open space ideas were continued with subsequent plans, including the *Plan for Canada's Capital 2017-2067* (NCC, 2017).

The SGEC Parkway, as it is known today, is the combination of two former parkways: the Rockcliffe Parkway and the Eastern Parkway. In 1988, the entire stretch became known as the Rockcliffe Parkway, which was subsequently renamed in 2015 to the Sir George-Étienne Cartier Parkway to honour one of Canada's most influential public servants (Bunke, 2020).

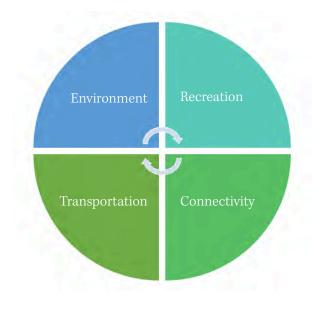
The Parkway runs adjacent to some of the most desirable neighbourhoods in Ottawa, such as Rockcliffe Park and New Edinburgh, owe their creation to Thomas McKay (1792-1855) and his relatives (Gordon, 2015). Most recently in the summer of 2020, the Parkway was subject to a pilot study to close it off to vehicle traffic on weekends to allow pedestrians and cyclists to safely use the Parkway as a leisure pathway for sufficient physical distancing measures (necessary during the COVID-19 pandemic). The pilot study also included the Queen Elizabeth Driveway and the Sir John A. Macdonald Parkway. Between the study's inception in late spring until the end of the Thanksgiving weekend, the three Parkways proved to be a desirable destination with over 600,000 visits (Vlasveld, 2020).



Image 6: People enjoying winter recreational activities at Rockcliffe Park circa 1925 (Ottawa Improvement Commission, 1925).

2.2 Policy Analysis

The SGEC Parkway is governed by the NCC. Policies from the City of Ottawa and the Rideau Valley Conservation Authority (RVCA) were considered as secondary governing bodies. In addition, the Canada Lands Corporation Plan for the former CFB Rockcliffe community was analyzed as a notable surrounding land use and as an example of the residential communities that flank the Parkway along the southern border.



The policy documents and initiatives analyzed can be divided into four themes: Environment, Recreation, Transportation, and Connectivity (above). These four themes pose important considerations in the protection, management, and development of the SGEC Parkway. Appendix A provides an in-depth analysis of the 25 policy and plan documents that were analyzed.

Environment

Identified as a significant area of urban greenspace by the NCC's *Plan for Canada's Capital* (2017), the SGEC Parkway contributes to the resilience and sustainability of the Capital through its many unique environmental features. Several policies, across different levels of government, augment the overall theme of environmental stewardship and promoting a greener Capital. The idea of the SGEC Parkway acting as a natural corridor and providing links to other greenspaces is noted in the *Plan for Canada's Capital* (2017) and the *Capital Urban Lands Plan* (2015) which advocate for the protection and improvement of these natural corridors to ensure the long-term environmental health and natural biodiversity of Ottawa.

The NCC's Capital Urban Lands Plan (2015) is a land-use plan that provides detailed policy guidance to support planning and stewardship of the Capital Region. In fulfilling this role, the Plan designates parts of the SGEC corridor as Valued Natural Habitat, Capital Urban Greenspace, and as Capital Park within the Capital Greenspace Network. The Network prioritizes environmental stewardship through policy designed to permit low-intensity recreation while encouraging the regeneration and restoration of natural habitats where appropriate. The Plan highlights the Parkway as a Capital Urban Greenspace which prioritizes the protection of parkland connections to the Greenbelt and improves linkages between urban parks, such as Rockcliffe Park, on the western boundary of the site, and Petrie Island, just beyond the eastern border.

Updates to the SGEC corridor will need to comply with the Valued Natural Habitat designation, aimed at protecting, restoring, and maintaining natural habitats in support of biodiversity.

Updates to the SGEC corridor will also need to comply with the intentions of the Capital Park designation which promotes year-round access to green and waterfront spaces for gatherings, commemorations, and interpretive installations.

The overall health of the Ottawa River is noted in several policy documents, particularly those produced by the Rideau Valley Conservation Area (RVCA). The RVCA Strategic Plan (2016b), the Green's Creek Report (2016a), and Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses (2018) were analyzed, as the RVCA are noted as subjectmatter experts in the field of watershed conservation and protection. Of note for the SGEC corridor, the RVCA prioritizes the protection, restoration, and enhancement of watershed health and safeguards people and property from natural hazards. As such, the RVCA promotes low impact development and natural channel design, especially in urban areas, to reduce runoff and erosion and to improve water quality and habitat.

In addition, the SGEC corridor intersects the Greenbelt, thereby a portion of the study area should comply with the NCC Greenbelt Master Plan (2013). This Plan renews and expands upon the original vision of the Greenbelt and looks ahead to where the Greenbelt could be in 2067, so that future generations of Canadians can continue to enjoy a superior quality of life in Canada's Capital. To fit the aspirations for the Greenbelt of 2067, the Plan identifies the natural environment as the primary area of intervention within the Greenbelt. A secondary role of the Greenbelt is sustainable agriculture and, as the SGEC corridor contains farmland, future design should help engage users and increase visibility of the Greenbelt's contribution to local food.

Implications for Planning the SGEC Parkway

The ecological sensitivity and floodplain designations of the corridor will need to be respected in future plans and conceptual designs for the SGEC Parkway. The long-term natural health and vitality of the corridor is very important, especially in relation to Green's Creek, Lower Duck Island, and surrounding environmentally significant wetlands. Furthermore, future plans will need to find opportunities to enhance the network of greenspaces while balancing human intervention.

Recreation

Initiatives to enhance and increase recreational opportunities on the SGEC Parkway are referenced in the NCC's *Plan for Canada's Capital* (2017) and are primarily related to shoreline accessibility. The Plan outlines policies to increase waterfront access while maintaining important waterfront greenspace. It highlights parkways specifically as corridors to be transformed to establish linear green spaces, to showcase the Capital's natural scenic, cultural, and recreational qualities with emphasis on greater access, active mobility, and enjoyment of the waterways.

Many of the policies also implicitly referenced the need to enhance recreational opportunities on the SGEC Parkway, including the NCC's *Pathways Strategic Plan* (2020a). The NCC's *Ottawa River North Shore Parkland Plan* (2018a) and *Ottawa River South Shore Riverfront Park Plan* (2018b), as referential plans for the SGEC Parkway, also highlight the importance of recreational opportunities and attractions along the waterfront and parkland.

$Implications \ for \ Planning \ the \ SGEC \ Parkway$

Future plans and conceptual designs will need to enhance linkages between neighboring communities and the corridor to facilitate active lifestyles as well as equitable access to a variety of greenspaces and the waterfront. Traditionally, the SGEC Parkway has included predominately low-intensity recreational greenspace to be used by a range of users as they see fit. However, a wider variety of recreational activities and attractions should be considered for future plans. Future uses of the Parkway should also encourage environmental, historical, and cultural programming to engage residents and visitors of all ages.

Connectivity

The NCC Pathways Strategic Plan (2020a) has a key outcome to formally set out the scope of the Capital Pathway Network. The current Capital Pathway Network consists of approximately 220 kilometres of pathways, which are located primarily on NCC lands, with some segments located on municipal lands or other federal lands. The Plan outlines strategic direction for ensuring an integrated and resilient pathway network that is safe and user friendly, with high standards of design and maintenance. As the Capital Pathway is collaboratively managed, partnerships with municipal and federal agencies, stakeholder groups, and the public at large are also underlined as a key component for success. The Plan outlines important policy guidelines for pathway quality, design, and maintenance that should be considered in future plans for the pathways within the SGEC corridor.

Considering active transportation is such an important feature of the Parkway, the City of Ottawa *Cycling Plan* (2013b) and *Pedestrian Plan* (2013c) were also analyzed. The *Cycling Plan* (2013b) proposes the Ultimate Network Concept of continuous, higher capacity spine routes for direct, longer distance travel, supported by smaller scale local routes for local access. This network promises routes interconnected with the City's

and NCC's off-road pathway network. Interjurisdictional cooperation is also mentioned in the *Pedestrian Plan* (2013c), which strives to develop similar standards and usage policies (for example signage and pathway rules) to promote a seamless experience for pedestrians.

Implications for Planning the SGEC Parkway

Future plans and conceptual designs will need to enhance the connectivity of the pathway network through and between the SGEC corridor and its adjacent neighborhoods. Transition points between pathways within and surrounding the SGEC corridor need to be as seamless as possible. As such, access to the SGEC corridor by active modes of transportation, through pedestrian and cycling linkages, will be increased with greater consideration given to the corridor's internal and external connectivity.

Transportation

As a significant Parkway, the SGEC Parkway serves as a key scenic gateway into the core of the nation's Capital Region for residents and visitors. The draft NCC *Parkways Policy Update* (2020b) highlights that it is not the primary obligation of parkways to accommodate regional commuting demands. The policy dictates that parkway roadways are typically two-lane limited access paved travel ways that mainly provide safe facilities for cyclists and provides access to areas for the purpose of recreation. Traffic calming, active mobility, and passive recreation underline the transportation policy guidelines within the NCC plan.

Furthermore, the *Capital Urban Lands Plan* (2015) identifies parkways as a key component of Capital Links, important infrastructure connecting greenspaces and major attractions, as well as main access routes into the Capital.

The Plan commits the NCC to continue to plan its parkways to align with the distinctive character of the Capital such that they are maintained, protected, and enhanced for all users. While the Plan highlights parkways as corridors linking urban greenspaces and improving access to waterways and pathways, it also anticipates a shift in the use of parkways as public spaces. Additionally, no policies in the plans specifically prohibit widening the SGEC Parkway to four lanes. Thus, future plans and policies should feature active transportation and improve access to the Capital's existing and envisioned natural, scenic, cultural and recreational facilities.

Implications for Planning the SGEC Parkway

Future plans and conceptual designs will need to enhance the pleasurable, scenic roadway experience of the Parkway, while ensuring and promoting the safety and accessibility of active transit within the SGEC corridor. Transportation duality within the Parkway requires careful consideration as plans will need to balance the commuter realities of a growing city with the desire to encourage more sustainable modes. The roadway and multi-use pathways offer

a unique opportunity for increasing scenic impact and sense-of-place within the Capital Region.

Existing Conditions Policy Evaluation Summary

The existing conditions of the SGEC Parkway were evaluated in relation to the policy directives found within the primary, and select secondary, governing policy documents for the site (Figure 4). Generally, the Parkway complies only moderately to governing policy; with the exception of the Greenbelt Master Plan (2013) as both of the Plan's primary goals of environmental protection and habitat enhancement, as well as a secondary goal of sustainable urban agriculture, are represented within the SGEC corridor. The Plan for Canada's Capital (2017), Capital Pathway Strategic Plan (2020), and the City of Ottawa Cycling Plan (2013) all reflect a desire for the Parkway to serve as a more dynamic and interactive space, better facilitating recreational and cultural opportunities and supporting greater active transportation use and community connections.

SGEC Corridor Existing Conditions	
National Capital Commission Policies	Compliance
Greenbelt Master Plan (2013)	
Capital Urban Lands Plan (2015)	
Plan for Canada's Capital (2017)	
*Draft Parkway Policy Update (2020)	
Capital Pathway Strategic Plan (2020)	
Other Notable Policies	Compliance
City of Ottawa Greenspace Master Plan (2006)	
City of Ottawa Pedestrian Plan (2013)	
City of Ottawa Cycling Plan (2013)	

*It is important to note that the contents in this Plan represent only proposed preliminary policy direction and do not necessarily represent approved NCC Board policy.

Figure 4: Policy
matrix of existing
conditions. Poor
compliance is
indicated in
red, moderate
compliance is
indicated in yellow,
and high compliance
is indicated in green.

2.3 Land Uses

Capital Region at a Glance

Canada's Capital Region had a population of 1.32 million in 2016, with nearly 1 million living in the City of Ottawa (Statistics Canada, 2017). The region's population is expected to continue climbing with the City of Ottawa's projected population reaching 1.2 million, and the region as a whole reaching 1.8 million by 2036 (City of Ottawa, 2016). The four wards surrounding the SGEC Parkway (Orléans, Innes, Beacon Hill-Cyrville, & Rideau-Rockcliffe) combine for a population of approximately 166,000 (City of Ottawa, 2020).

The two most dominant employment sectors in Ottawa are federal government jobs and high-tech industries, with a major feature of the Ottawa workforce being the net-in commuting patterns. Approximately 5.4% of all Ottawa employees travel from adjacent communities (City of Ottawa, 2016). Trends show that this pattern has increased, with a greater proportion of workers now commuting longer distances to reach the City Centre. Coupled with the explosive population growth in suburban areas surrounding Ottawa, these patterns have led to dramatic increases in commuter traffic (Savage, 2019). This increased pressure on commuter routes has turned commuters – who are looking for a quick, uninterrupted, and stress-free trip to the central area - towards the SGEC Parkway.

Recent housing trends continue to show high demand for single-detached houses in Ottawa, with around one third of all demand projected to be in single-detached (City of Ottawa, 2016). However, there has also been a significant increase in demand for row and apartment units, which are vital for the City to achieve its intensification targets as set out in Section 2.2.2 of the *Official Plan* (2013a) (City of Ottawa, 2016).

To accommodate this growth, the City of Ottawa is proposing to expand its urban boundary by 1,281 hectares for new residential development (City of Ottawa, 2020). This expansion of residential lands is happening outside of the Greenbelt, which may further the trend of increased commuter distances and exacerbate demand for transportation corridors such as the SGEC Parkway.

Existing Land Uses at a Glance

A multitude of land uses exist in the SGEC corridor and in the surrounding communities. The predominant land uses along the SGEC Parkway are Capital Urban Greenspace and Valued Natural Habitat. These lands are to be protected and enhanced under the NCC's Capital Urban Lands Plan (2015) and the Greenbelt Master Plan (2013). Areas of natural and scientific interest (ANSIs) and Valued Natural Habitats are also acknowledged within the Urban Lands Natural Network. Capital Urban Greenspaces are often viewed as linear parks as they are linked with parkway and path networks. They play an important part in linking the greenspaces of the National Capital Region. Greenbelt land designations encompass the majority of the eastern section (Map 3). This includes Green's Creek which falls under the NCC Greenbelt Master Plan (2013) and the RVCA's policies.

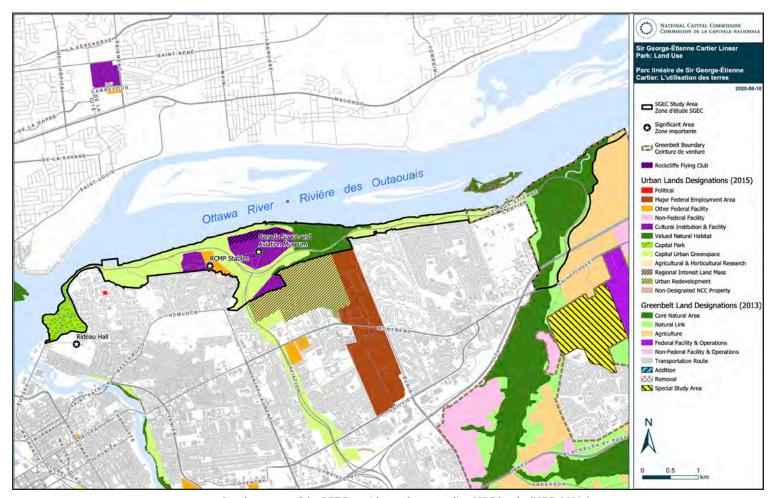
The study area contains several Cultural Institution and Facility land designations including the Canada Aviation and Space Museum, the RCMP Stables, and the Former CFB Rockcliffe Airbase. The Canada Aviation and Space Museum and the RCMP Stables remain important cultural aspects of the Parkway, attracting visitors and tourists from the Capital Region and beyond.

On the site of the Canada Aviation and Space Museum there is also a small operational airport established in 1961. It is currently used by The Rockcliffe Flying Club, who leases it from the NCC.

The former CFB Rockcliffe site is the largest undeveloped piece of land within the NCC's Capital Urban Lands Plan (2015). The site partially intersects with the study area but is mostly located immediately south. It is currently designated with the Urban Redevelopment Designation with the Canada Lands Company set to guide the redevelopment process (NCC, 2015). The CFB Rockcliffe community is designed as a mixed-use community for approximately 9,800 residents and includes a variety of employment uses creating approximately 2,600 jobs. According to Section 3.6.4 of the City of Ottawa Official Plan (2013a), development should maximize the number of access and egress points in the transportation system. This policy and development will increase the number of local potential users of the SGEC Parkway.

Rockcliffe Park is the only park designated as a Capital Park within the study area. The Capital Park land designation denotes it as a naturally significant park in the National Capital Region. These areas often play host to events of national importance.

The SGEC Parkway is bounded by the Ottawa River to the north, and by several residential communities to the east, south, and west (Appendix B). These areas are comprised mainly of single-detached homes, with low to mid-rise apartments and townhouses clustered along St. Laurent Boulevard and Montreal Road. The multi-use pathways and roadway that run through the study area act as scenic routes through the capital and provide access to the waterfront and greenspaces for City of Ottawa residents and visitors.



Map 3: Land use map of the SGEC corridor and surrounding NCC lands. (NCC, 2020c)

These routes are also a part of the network of roads and paths which are known as "Capital Discovery Routes." This important network connects many cultural institutions and major attractions (Bunke, 2020). There are also lands designated as Other Federal Facility in the study area, highlighted in orange in Map 3. This designation encompasses the RCMP Stables and its buildings. Additionally, immediately south of the study area is land designated as Major Federal Employment Area. The employment area referred to is the National Research Council complex. Areas under these designations are generally large, multi-building employment areas located in campus-like settings (Bunke, 2020).

It is important for the design of the SGEC corridor that the existing land uses of the study area and surrounding context be understood. These land designations continue to have an immediate impact on the SGEC Parkway. In understanding the site and its surrounding context, the team will be better equipped to design a space which respects the needs of today, while planning for a much different Capital Region of the future.

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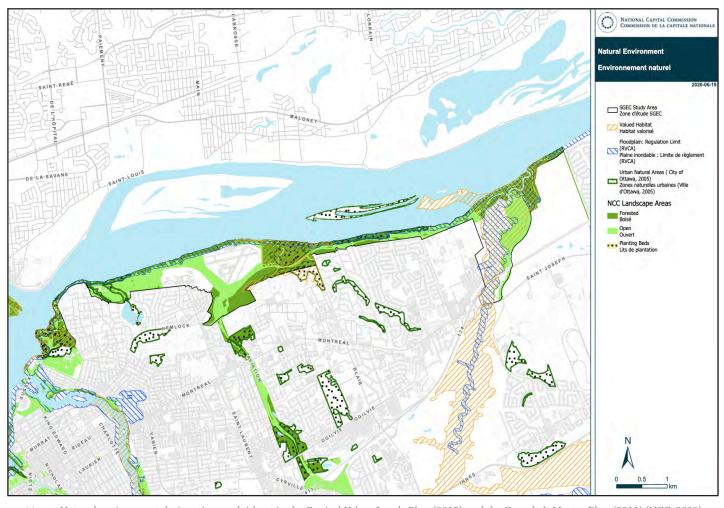
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3.0 SGEC CORRIDOR EXISTING CONDITIONS

3.1 Environment

The SGEC corridor is an excellent example of the urban to rural transect as it begins in downtown Ottawa at its western end and continues east to the Greenbelt. The natural environment of the corridor is host to many unique habitats and ecosystems. Rockcliffe Park, Airbase Woods, and Green's Creek have been identified as Valued Natural Habitat (Map 4). The *Capital Urban Lands Plan* (2015) and the *Greenbelt Master Plan* (2013) enforce the protection of these areas by authorizing only low impact activities such as scientific research, habitat restoration, and low impact recreation on official trails. Green's Creek garners particular interest as it is home to many rare species and forms a vital connection between Mer Bleue bog and the Ottawa River. A large part of Green's Creek has been identified as a Life Science Area of Scientific Interest (ANSI) (City Stream Watch, 2016). Lower Duck Island has also been identified as a candidate ANSI for being home to many provincially and regionally significant species at risk (AECOM Delcan, 2010).



Map 4: Natural environment designations as laid out in the Capital Urban Lands Plan (2015) and the Greenbelt Master Plan (2013) (NCC, 2020).

Species at Risk	Flora	Fauna
Provincially Significant	Cat-tail sedge	Peregrine falcon
		Common night hawk
		Chimney swift
		Bald eagle
		Northern map turtle
Regionally Significant	Witch-hazel	Great Grey Owl
	Climbing poison-ivy	
	Grove sandwort	

Figure 5: A table of provincially and regionally signficant species in the study area sorted by flora and fauna (AECOM Delcan, 2010).

Actions must be taken to reduce the invasive species as they can kill off native species and, in some cases, affect human health. The invasive species in this study area include:

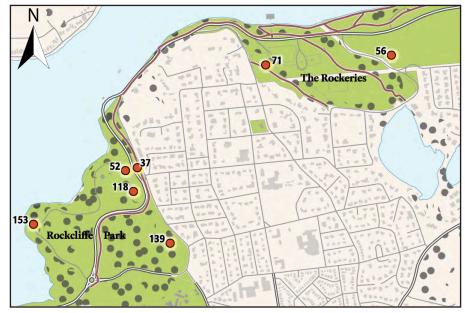
- Dog-strangling Vine
- Garlic Mustard,
- Common and Glossy Buckthorn
- Japanese Knotweed
- Yellow Archangel Norway Maple (Rockcliffe Park Residents Association, 2018).

Protection and enhancement of native species, species at risk, and their habitats will maintain the biodiversity of the natural ecosystems.

Trees

The trees in the study area are mostly comprised of a mix of coniferous and deciduous trees. The predominant tree species present in the area include eastern white cedar, American basswood, and burr oak. The most significant forest in the study area is the Airbase Woods located east of the Canada Aviation and Space Museum and it is mainly comprised of sugar maple trees (Bunke, 2020). This area is also identified as a Valued Natural Habitat in the *Capital Urban Lands Plan* (NCC, 2015).

Hardy (2020) determined trees of high ecological and heritage value throughout the National Capital Region, designating them as remarkable trees. Seven remarkable trees have been identified in the study area and all seven are located in the Cliff character area, within Rockcliffe Park and the Rockeries. This project provides an opportunity to raise awareness about the history and heritage of these trees.



Tree number	Type of Tree
7	Bitternut Hickory
9	Northern Catalpa
26	Pin Oak
33	Red Oak
37	Rocky Mountain Douglas Fir
52	Sugar Maple
58	Black Maple
73	Maidenhair Tree
118	Eastern White Pine
139	Eastern Hemlock
141	Black Locust
153	Eastern Red Cedar

Figure 6: A map of the locations of the remarkable trees within the Cliff character area (top). A table indicating the type of tree by tree number in the map above (left). (Hardy, 2020).

Electoral District	Tree Canopy (%)
Rideau-Vanier	27%
Rideau-Rockcliffe	37% (7th highest in Ottawa)
Beacon Hill-Cyrville	32%
Innes	39% (6th highest in Ottawa)

Figure 7: A table indicating the percentage of tree canopy by electoral district in the SGEC study area.

The study area is encompassed within four electoral districts (Figure 7). The Innes and Rideau-Rockcliffe electoral districts have the 6th and 7th highest tree canopy cover in the City of Ottawa, according to the assessment completed in collaboration between the NCC, City of Ottawa, and Ville de Gatineau (UVSAL, 2019).

In many places along the multi-use pathways and the SGEC Parkway, the tree canopy obstructs the view of other natural features, especially the Ottawa River. For example, buckthorn, an invasive species, is present in the corridor and can obstruct views.

Conversely, there are areas along the multi-use pathways where more trees could be planted to help with path usability as they would provide more shade and help with shoreline restoration. There may be opportunities to improve the tree canopy within the study area east of Airport Marina Road, around the Canada Aviation and Space Museum, around the Robert O. Pickard Environmental Centre, and at Mile Circle. There is also an opportunity to extend the forest tree canopy where the SGEC Parkway turns at the Greenbelt boundary to run north-south.

Image 7: Restricted views of the water along the Upper Pathway.





Image 8: Restoration area that is part of the Pollinator Habitat Restoration Project (NCC, n.d.-c).

Pollinator Habitat Restoration Project

In collaboration with Canadian Wildlife Federation, the NCC executed a successful pollinator habitat restoration project. The site of this project is within the SGEC corridor, located alongside the roadway and near the P8 parking lot in the Greens character area. The project restored two meadows with a total area of 3.8 hectares (NCC, n.d.-c). They planted the meadows with native Ontario plants including a variety of grasses, milkweeds, and wildflowers with the intention that the species will become established enough over time to self-seed and spread to surrounding areas (Garland, 2019). This project is beneficial to the community in many ways. From an environmental perspective, the newly planted native species can limit the growth of invasive species while providing much needed habitat for pollinators, such as bees and butterflies (NCC, n.d.-e). Thriving pollinator populations are essential to sustainable agriculture and food production. Furthermore, this project provides an opportunity to educate and engage the public about the importance of pollinators and natural habitats. This specific location brings attention to the conservation efforts on NCC-managed lands (NCC, n.d.-e). Future design plans of this site include walking paths, public washrooms, shelter, signage, and a pedestrian crossing.

Flooding

Flooding has always been a constraint in the study area; with climate change, it can only be assumed that the flood risk will increase. Increased flooding has already been observed in the last few years as the 100-year flood level was reached in 2017 and again in 2019. A 100-year floodplain represents a 1% chance of flooding in that area each year, or in other words, a flood of that intensity once every 100 years. Flooding has caused severe shoreline erosion, slope instability, and sinkholes in the study area. In 2017, the Lower Pathway had to be closed for several months and a large budget was dedicated to flood damage repairs (Canadian Press, 2019).



Figure 8: 20-year floodplain line (red) in Flats character area. Floodplain data layer provided by RVCA.



Figure 9: 100-year floodplain line (red) in Flats character area. Floodplain data layer provided by RVCA.

The main point of concern is that the entirety of the Lower Pathway is within the 100-year floodplain; most of the Lower Pathway is also within the 20 -year floodplain (Figure 8 and 9). Figure 10 (bottom left) shows a close up of the two floodlines in respect to the Lower Pathway. This image is representative of the Lower Pathway conditions in most of the study area. This poses challenges with the types of activities and infrastructure that can occur along this area, especially because the intensity of flooding is causing shoreline erosion and slope instability. The Upper Pathway can be used as an alternative when the Lower Pathway is flooded. However, the Upper Pathway is not as extensive and both paths provide different experiences, attracting different users. The *Capital Pathway Strategic Plan* (2020) suggests bioengineered solutions such as box culverts, boardwalks, inlets, and raised pathways to deal with flooding while keeping the hardscaping of the shoreline at a minimum.



Figure 10: 20- year floodplain (blue) and 100-year floodplain (red) in Flats character area. The Lower Pathway is in the floodplain. Floodplain data layers provided by RVCA.

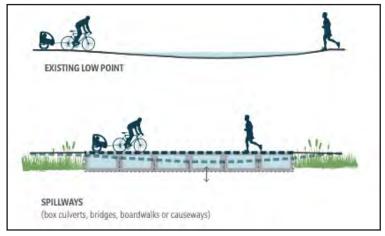


Image 9: Example of bioengineered solution to deal with flooding (NCC, 2020).

Erosion

A key environmental constraint of the study area is erosion. There has been an increased amount of erosion in the study area as a result of human activity and flooding. Even though there are designated trails, there are numerous informal trails in the study area, many of which go towards the water. At the water itself, there are few official paths for direct water access, resulting in unsafe, informal trails (Image 10). This results in loosening and compaction of topsoil, damage to species habitat, spread of invasive species, and loss of vegetation (Image 11).





Image 10: Informal trail going to the water.

Image 11: Informal trail between the Upper and Lower Pathway resulting in loss of vegetation.

Environmental Implications for SGEC Corridor Design

The SGEC corridor is an environmentally sensitive area and any design of this area should be mindful of the potential negative impact to Green's Creek, Lower Duck Island, the Ottawa River, and Airbase Woods; no development can occur in these areas. Measures should also be taken to reduce the invasive species in the area and promote native species to enhance the health and biodiversity of the ecosystems. There are some areas which could benefit from more trees and added canopy cover. As a strategy, any trees that need to be removed to improve views or create nodes elsewhere along the SGEC corridor can be relocated in these areas. If relocation is not possible, compensation trees could be planted instead. Further consideration will need to be given to tree attributes (i.e., height, width, types of leaves, nativity, location) to identify which trees can be removed

or relocated to improve views and vistas to the water. Shoreline remediation and flood risk mitigation strategies should be strongly considered, given that the frequency and volume of flooding is likely to keep increasing. Finally, there is an opportunity to engage and educate the public about the natural features of the corridor through informational panels, art installations, and programming throughout the corridor.

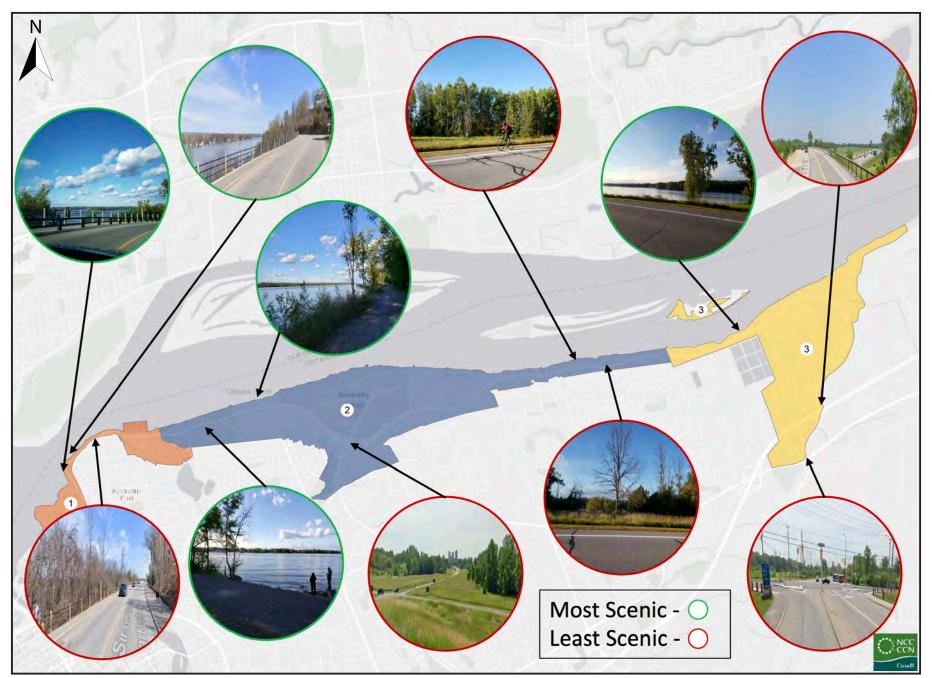
3.2 Views

The team analyzed the quality of views along the SGEC corridor using the criteria developed in the *Ottawa River Parkway Corridor Visual Assessment Report*. The following indicators were used in the report to evaluate views: Unity/ Harmony, Variety/Complexity, Spatial Characteristics, and Maintenance/Health (NCC, 2006). The NCC used these indicators to analyze the quality of views along the former Ottawa River Parkway, now known as the Sir John A. Macdonald Parkway. To evaluate the SGEC Parkway views, these established criteria are suitable and applicable owing to the relatively comparable landscape of the two parkways.

Due to the COVID-19 pandemic travel restrictions, the team had very limited opportunities to interact with the site. This meant the team was not qualified to assign grades to views on the parkway. Instead, the analysis consisted of capturing and evaluating views from Google Street View and photographs taken by a team member. The method employed for choosing views used the framework from the *Ottawa River Parkway Corridor Visual Assessment Report*. The framework guided the critical evaluation analysis of where the most and least scenic views are along the SGEC Parkway.

Indicator	Definition
Unity / Harmony	Visual unity and compositional harmony in terms of the inter-compatibility among the elements and patterns of the landscape
Variety / Complexity	The amount of visual interest or variety, such that the viewer is provided with a moderate amount of information or variety, neither too boring, nor too chaotic.
Spatial Characteristics	Whether landform and vegetation define both open and closed spaces, resulting in interesting, protected or intimate spatial experiences
Maintenance / Health	Degree and appropriateness of human care or maintenance and/or degree of environmental health.

Image 12: Indicators to evaluate views with their definitions as set out in the Ottawa River Parkway Corridor Visual Assessment Report (NCC, 2006).



Map 5: Locations of the most and least scenic views in the study area.

Most Scenic Views

The SGEC Parkway and its pathways have some incredible views; the images below are some of the best examples. We selected these views as the most scenic views of the subject site because they execute all four indicators well. They also display interesting spatial characteristics in terms of geography and topography and good maintenance/health in terms of the lush vegetation; the patterns of the landscape are harmonious and have reasonable complexity. Image 16 is a view from the Rockcliffe Lookout, which is the most popular spot within the study area that people go to appreciate the serene landscape.



Image 13: Views of Ottawa River from the SGEC Parkway – immediately east of Acacia Avenue.



Image 14: View from the Lower Pathway looking west-between Hillsdale Road and nearest eastern parking lot.



Image 15: Scenic view of the Ottawa River looking west on the SGEC Parkway – North of Robert O. Pickard Environmental Centre.



Image 16: View of Gatineau, Quebec, Ottawa River, and the Rockcliffe Boathouse and Marina from the Rockcliffe Lookout Point.

Least Scenic Views

The following images illustrate the Parkway portions that provide the least visual interest. The figures generally depict how the landform and vegetation have decreased the ability to view the river. As noted in the section prior, views of the river can evoke feelings of serenity, whereas the lack of view of the river in these locations can make the Parkway feel long, boring, and at times unsafe, especially for pedestrians and cyclists (Images 17 and 18). In these instances, pruning is necessary to prevent overgrowth from limiting views.







Image 18: Dense tree cover blocking views of the Ottawa River— Transect of land north of Fillmore Crescent.

The area where the SGEC Parkway and St. Joseph Boulevard meet is a site that provides little visual interest (Image 19). The intersection appears to be chaotic and relatively urbanized with an abundance of street infrastructure. The intersection has a very different feel from the rest of the Parkway because it does not provide stimulating views, nor is it as lush as the other segments of the Parkway.

The roadway that is visible from the Parkway in Image 20 is not a visually appealing landscape and does not seem compatible with the vegetation and landform of the SGEC Parkway. Furthermore, the view of the roadways removes the feelings of tranquility that one can experience in other sections of the SGEC Parkway. This is a consequence of the adjacent lands' urbanization to allow for the movement of people in cars at high rates of speed.



Image 19: Intersection where the SGEC Parkway and St. Joseph Boulevard meet (Google, 2019c).



Image 20: Overlooking the Queensway highway (Google, 2019f).

Implications of Views Analysis for the SGEC Corridor Design

Based on this analysis, it is evident that the views that someone can experience along the Parkway are heavily dependent on location. Serene and harmonious views do not exist along the Parkway in its entirety. Instead, the views are fragmented as a result of vegetation and urbanization. To enhance the quality of views, the NCC should employ pruning or thinning tree density interventions. These interventions could be employed where vegetation blocks views, where the vegetation comprises of invasive species, and where the vegetation is not environmentally significant. The potential locations for these interventions could include, but are not limited to, the places illustrated in Images 17 and 18.

To compensate for reducing the tree cover in these areas, the NCC should plant new trees to ensure no net loss. The replacement of trees should occur on a 2:1 basis for the whole Parkway. Parts of the Greens character area have potential for revitalization and tree planting. When replanting trees along the corridor, priority could be given to small tree species to reduce impacts on views. If employed, this strategy will enhance the views of the river and improve safety for pathway users without negatively affecting the environment.



Image 21: Historic image of Rideau Hall (Parks Canada, n.d.-c) (Originally from: Parks Canada, 2006)).

3.3 Landmarks and Focal Points

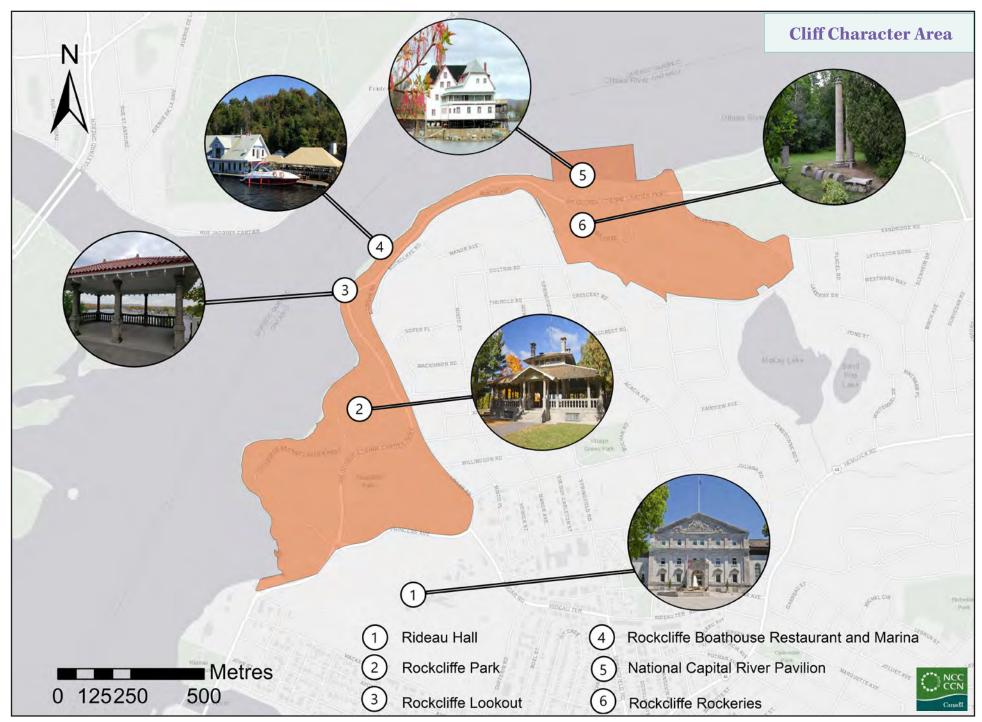
The SGEC corridor has many nationally and historically significant landmarks and focal points. This section will provide details on each of these and present them from west to east along the parkway. Maps of the focal points will be presented by character area.

1. Rideau Hall

Rideau Hall is located at the western end of the SGEC Parkway. It began as an eleven-room regency villa built in 1838 by Thomas McKay (NCC, 2017b). The building and grounds were eventually leased to the Governor General as a residence in 1864, an arrangement that was made permanent in 1868. Since then, many Governors-General have left their mark on the historic residence, adding new rooms, wings, and amenities. The gardens were also expanded by Lady Byng in the 1920s and Mrs. Michener in 1968 (NCC, 2017b).

Today, the Rideau Hall Complex includes 32 hectares of grounds, a main building with about 175 rooms covering 8825 square metres, and 27 buildings, including the Rideau Cottage, the Gate Lodge, the Cricket Pavilion, the Stable Building, the Dome Building, the Dairy Building, and the Greenhouses (NCC, 2017b; Parks Canada, n.d.-c). The buildings and gardens on the site are laid out in the style of a traditional 19th century English country estate, with the complex being designated as a Classified Federal Heritage Building (Parks Canada, n.d.-c). The Rideau Hall Complex serves as a symbol of Canadian values, celebrating Canadian leaders and welcoming foreign leaders (NCC, 2017b).

The Rideau Hall Complex lacks connections to the surrounding neighbourhoods, with the Rideau Hall Landscape Design and Site Management Guidelines describing the need for Rideau Hall to re-establish the formerly strong ties to Rockcliffe Park through means such as increased pedestrian and bicycle pathways and access points for neighbours. (NCC, 2005; Office of the Secretary to the Governor General, 2018). The only road connection between the SGEC Parkway and Rideau Hall is through Princess Avenue. However, there is a street connection between Rideau Hall and Rockcliffe Pavilion through the Rockcliffe Driveway. Only the gates of Rideau Hall are visible from the Parkway. There are few strong connections to the Ottawa River Pathway, restricting the flow of pedestrians from the SGEC Parkway corridor to Rideau Hall. There is also a lack of amenities, such as washrooms, garbage cans, and picnic tables in the Rideau Hall Complex, a problem that continues into the SGEC Parkway.



Map 6: Map of the locations of focal points in the Cliff character area.

2. Rockcliffe Park

Rockcliffe Park is an urban park located in the neighbourhood of Rockcliffe Park. It is around 33 hectares, of which approximately 80% is comprised of mature mixed deciduous forest cover (NCC, 1997).

The park also sits upon a limestone escarpment that towers around 30 metres above the Ottawa River, providing excellent views of both the Ottawa River and the City of Gatineau. The site is an important cultural landscape and a regional point of interest.

Between 1890 and 1960, Rockcliffe Park was one of Ottawa's premier pleasure parks and was one of few developed urban parks that was easily accessible by public or private transportation, including the streetcar line (NCC, 1997). However, the increasing use of the automobile brought a decline to the use of the park. The *Rockcliffe Park Redevelopment Study* (1997) has identified that the park lacks a strong 'stakeholder' or community interest and its role in the National Capital Region is unclear (NCC, 1997).

Rockcliffe Park contains two key points of interest, Rockcliffe Pavilion (Image 23) and the Rockcliffe Lookout (Image 22). Rockcliffe Pavilion was built in 1917 by the Ottawa Improvement Commission.



Image 22: Rockcliffe Lookout.



Image 23: Historic image of the Rockcliffe Pavilion (Parks Canada, n.d.-d) (Originally from: Roving Recorders, 1994)).

It is a two-storey structure made of concrete with a wooden canopy and is a Recognized Federal Heritage Building (Parks Canada, n.d.-d). It is located north of the SGEC Parkway and is nestled among mature trees, with excellent waterfront views. It is a local landmark for visitors and serves as a venue for picnics, musical and theatrical performances, and weddings. It is accessible through Rockcliffe Driveway, as well as from the trail network within the park.

3. Rockcliffe Lookout

The Rockcliffe Lookout (Image 22) is located directly on the SGEC Parkway and provides stunning views of the river. The Lookout is a heritage pavilion, providing a place for people to park their cars and enjoy the views. It is connected to the beginning of the Upper Pathway, and connected to an access road leading to the Rockcliffe Boathouse Restaurant and Marina.

4. Rockcliffe Boathouse Restaurant and Marina

The Rockcliffe Boathouse Restaurant and Marina is located east of the Rockcliffe Lookout. This building was formerly the home of the Ottawa to Gatineau ferry service, but since 1985 has been converted to a restaurant and marina (Bunke, 2020). The building is located on the water and is primarily a focal point for people boating on the river. For pedestrians and drivers, the boathouse can easily be missed, since it is not visible from the roadway and there are no pathway connections. Currently there is only a driveway for patrons and marina users to access the site. There is a path from the Rockcliffe Lookout that connects to the parking lot of the restaurant.



Image 24: Rockcliffe Boathouse and Marina Restaurant (NCC, 2020).

5. National Capital River Pavilion (formerly the Ottawa New Edinburgh Club Boathouse)

The Ottawa New Edinburgh Club is one of Ottawa's oldest sports clubs, with its offerings including tennis, rowing, sailing, and social opportunities. The Club was established in 1883 as the Ottawa Canoe Club (OCC) and relocated to its current location in 1894 (Vincent, 2016). The OCC eventually merged with the New Edinburgh Canoe Club (NECC) to form the Ottawa New Edinburgh Canoe Club (ONECC). The National Capital River Pavilion (formerly the ONEC Boathouse), a large wooden, two-and-a-half storey building which sits on the Ottawa River, was constructed between 1914 and 1925 and is a Recognized Federal Heritage Building (Parks Canada, n.d.-a). The construction of the Parkway in the mid-1950s forced the relocation of the Club's tennis courts and physically divided the Club, which remains to this day (Vincent, 2016). Following financial issues, the ONECC was re-established in 1965 as the Ottawa New Edinburgh Club (ONEC).

The ONEC facilities are not apparent while travelling along the Parkway. While the National Capital River Pavilion is visible from the SGEC Parkway, it can barely be seen through the trees, notwithstanding



Image 26: National Capital River Pavilion. Source: Parks Canada, n.d.-a) (originally NCC, 2009).

the clear efforts to landscape the trees in order to make it more detectable.

The ONEC facilities continue to be divided, since there are no street crossings near the facility along the Parkway to allow pedestrians to access all of the facilities on either side of the Parkway. However, the National Capital River Pavilion is well connected for pedestrians, with both the Upper and Lower Pathways connecting to the pedestrian bridge. The National Capital River Pavilion is being restored and renovated. Upgrades include winterization to allow for use in all four seasons and a universally accessible ramp to ensure equitable access to the pavilion (Bunke, 2020).

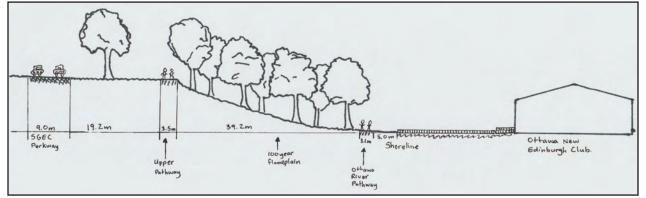


Image 25: Cross section at National Capital River Pavilion.



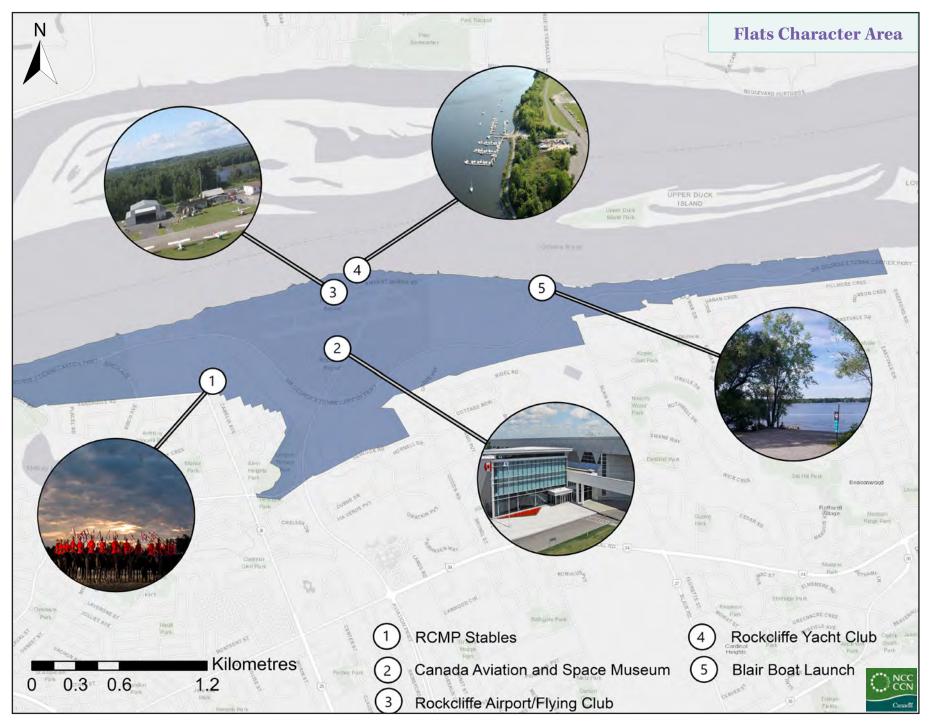
Image 27: Rockcliffe Rockeries.

6. Rockcliffe Rockeries

The Rockcliffe Rockeries are an area of approximately 2.65 hectares that is located east of Rockcliffe Park and Acacia Avenue, near the National Capital River Pavilion (National Capital Commission, n.d.-g). Like Rockcliffe Park, the area contains an abundance of nature, as well as the Rockcliffe Ruins. The Rockcliffe Ruins include the ruins of the Carnegie Library Columns, a library built around 1906 which was eventually demolished in the early 1970s (Capital Gems, 2020). They also contain Soper's Fountain, a Parisian fountain purchased by Warren Soper in 1912. Warren Soper has been informally dubbed "an Edison of Canada" for his work in Ottawa in the fields of transportation and electricity (Deachman, 2017). The Rockeries are also located near McKay Lake in the Rockcliffe Park neighbourhood.

The nature and parts of the cliff are visible from the SGEC Parkway, but some of the best assets of the area, such as the Rockcliffe Ruins, are not visible from the roadway and are therefore easy to miss. While there are pathway connections to these Ruins, there is a disconnect between this pathway system and the pathways near the waterfront.

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Map 7: Map of the locations of focal points in the Flats character area.

1. Royal Canadian Mounted Police Stables

The Royal Canadian Mounted Police (RCMP) Stables were built between 1939 and 1940 to house the horses of the "N" Division of the RCMP (Parks Canada, n.d.-b). They are a Recognized Federal Heritage Building and are associated with the transfer of RCMP headquarters from Regina to Ottawa and the popular RCMP Musical Ride. The famous RCMP Musical Ride involves a troop of riders performing intricate figures and drills to music and offers the opportunity to experience the heritage and traditions of the RCMP (Royal Canadian Mounted Police, 2020). The stables also offer visitors the opportunity to experience free guided tours, where they can meet the horses and riders and walk through the stables.

While part of the RCMP Stable buildings are visible from the SGEC Parkway, there are limited connections with the Parkway and virtually no connection with the waterfront pathway system. There is somewhat of a connection with one of the parking lots along the Parkway, but the lack of crossings limits this connection for pedestrians and restricts the ability for recreational activities from the stables to use the other side of the Parkway.



Image 28: Meet and greet at RCMP Stables (To do Canada, 2020)



Image 29: Exhibit at Canada Aviation and Space Museum (Ottawa Tourism, 2020).

2. and 3. Canada Aviation and Space Museum & Rockcliffe Airport/Flying Club

The Canada Aviation and Space Museum, along with the Rockcliffe Flying Club, are located on the site of the former Rockcliffe Airport, encompassing around 376 hectares.

The site began as a rifle range in the late 1890s and by 1918, the Royal Air Force was conducting experimental mail flights on the site (Payne, 1999). After World War I, a government air station was established on the site and the area was turned into a new Ottawa Air Station by 1922, with many of the remaining buildings on the site having been built between 1920 and 1928.

The site was one of the only combined landplane and seaplane bases in Canada. The base was also used for planes taking air photos and for a variety of racing activities, including the "Three Flag-Three Capital Flight" (Payne, 1999).

The name of the base was changed to RCAF Station Rockcliffe in 1940 and was used for the British Commonwealth Air Training Plan during World War II, leading President Franklin Delano Roosevelt to refer to Canada as the "aerodrome of democracy" (Payne, 1999). In 1964, the Royal Canadian Air Force ceased flying operations at the base and three historic aircraft collections were combined into the National Aeronautical Collection and moved into the abandoned hangars (Payne, 1999; Ingenium, 2020). This collection joined with the National Museum of Science and Technology in 1967 and was renamed the National Aviation Museum in 1982.

The current museum building opened in 1988 and in 2010, the name was changed to Canada Aviation and Space Museum to recognize the expanded mandate of the museum (Ingenium, 2020).

Today, the site also contains the Rockcliffe Flying Club, which includes a flying school and sightseeing tours (Rockcliffe Flying Club, n.d.).



Image 30: View of the Canada Aviation and Space Museum from the SGEC Parkway.

Both the Airport and the museum are visible from the SGEC Parkway. However, the airport and museum are located such that they create a divergence of the Upper and Lower Pathways, with the Lower Pathway continuing along the waterfront and connecting to the airport and museum through the Rockcliffe Yacht Club, while the Upper Pathway wraps around the opposite side of the airport alongside the Parkway. This creates a pathway that is unfriendly for pedestrians, as it is unprotected and isolated, potentially reducing the connectivity for pedestrians trying to access the recreational areas along the Parkway from the southern neighbourhoods.

4. Rockcliffe Yacht Club

The Rockcliffe Yacht Club is a 100 member "private co-op" style club with docks off of the Ottawa River (Rockcliffe Yacht Club, 2014). The Club serves as a place for people to access the waterfront. However, it is a private space with only limited visitor access. The Club is also quite hidden from the SGEC Parkway, since it is not visible due to the Canada Aviation and Space Museum and the Rockcliffe Flying Club. It has strong pedestrian connections from the Lower Pathway, connecting it all the way from the National Capital River Pavilion in the west to Green's Creek in the east. However, there is no connection to the Upper Pathway, given that this pathway runs on the opposite side of the museum.

5. Blair Boat Launch

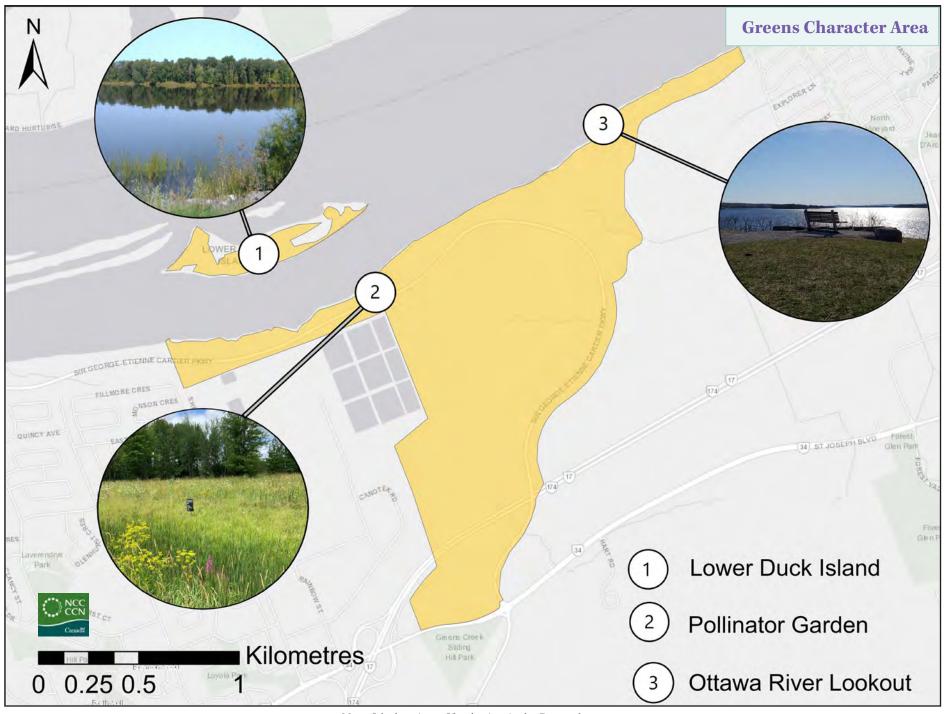
The NCC completed upgrades to the Blair Boat Launch in the summer of 2020. The upgrades were completed in order to improve the experience for boat launchers as well as improve the safety of the area for pedestrians and pathway users. The NCC improved the visibility for vehicle and pedestrian traffic and added concrete infrastructure to the Boat Launch (NCC, n.d.-a). Beyond this, the Boat Launch has very little infrastructure. The area is primarily an area for people to access the water and put boats in the water, with some chairs for users to enjoy as well.

The Blair Boat Launch is not visible at all from the SGEC Parkway. There is road access through Massey Lane, but this road is not accessible from the SGEC Parkway. The pedestrian access for the site is primarily from the Lower Pathway.



Image 31: Rockcliffe Yacht Club (Marinas.com, 2020)

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Map 8: Map of the locations of focal points in the Greens character area.

1. Lower Duck Island

Lower Duck Island is an island on the Ottawa River located in the Greenbelt. The island is visible from the part of the SGEC Parkway that is closest to the shoreline. Lower Duck Island is a Core Natural Area that is home to a variety of plant and animal species and is therefore intended to be conserved (Bunke, 2020). It is primarily accessed by boat. However, accessing it is inconvenient given that there are no nearby boat launches, the closest being the Blair Boat Launch.

2. Pollinator Garden

The Pollinator Garden is a project undertaken by the NCC in 2019-2020 to restore two meadows encompassing approximately 3.8 hectares (NCC, n.d.-c). It is located across from Parking Lot 8 in the Greenbelt. The project included the seeding of the area with native pollinator plant species to encourage monarch butterflies, bees, and other pollinating species to re-enter the area to feed (Section 3.1). There are also plans to add signs and plaques to enhance the educational component of the site. Further information about the enhancements of the Pollinator garden can be found in Appendix G.



Image 32: Ottawa River Lookout (Ahamed, 2020).



Image 33: Restored meadow at the Pollinator Garden (NCC, n.d.-c).

3. Ottawa River Lookout

Adjacent to Green's Creek is a popular lookout point, with several benches and chairs. The lookout point is located on top of a small cliff, which, while providing spectacular views, does not allow access to the water (Bunke, 2020). This lookout point is also not visible from the SGEC Parkway and is difficult to access, since it is on the eastern side of Green's Creek, requiring pedestrians to cross the creek where there is no crossing.

There is a convoluted pathway to access the lookout from the western side of the SGEC Parkway, which involves walking south towards the Parkway and crossing Green's Creek along the same bridge as vehicles. Residents from Orléans have better access to the lookout because the Ottawa River Pathway is on route to the lookout. However, to access the remainder of the pathways in the SGEC corridor, people from Orléans would have to embark on the convoluted route previously described. The Ottawa River Pathway provides residents of Orléans the opportunity to access the path from either the road closure at Radisson Way or from pathways from Voyageur Drive and Fairwinds Terrace.

3.4 Recreation

The study area itself has a limited number of amenities, mainly because it is a natural corridor with many environmentally sensitive features but also due to the lack of infrastructure (Section 3.5). Currently, the main activity in the area includes boat houses, boating, and walking trails. There are few picnic and seating areas where people can sit to enjoy the water and nature. More details about the focal points in the study area can be found in Section 3.3. Overall, the waterfront and SGEC corridor as a whole lacks recreation nodes where people can engage in active and passive activities. The corridor has not been activated to its full potential for public use.

The surrounding neighbourhoods have many different amenities including libraries, community centres, swimming pools, skating rinks, a sports centre, tennis clubs, and a curling club. Pedestrian and cycling connections between the SGEC Parkway and these facilities can be improved to be safer and more direct. Shefford Park, Richcraft Sensplex, and Max Volley Inc. form an eastern hub of recreational activity. However, the paved path connecting it to the Parkway is highly unsafe where it crosses the SGEC Parkway to get to the paths by the water.



Image 34: Lower Pathway near Hillsdale Road.

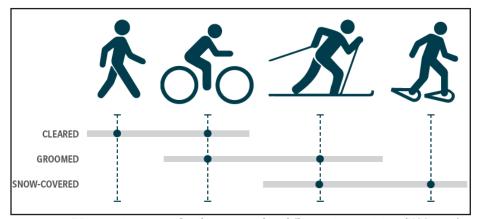


Image 35: Winter maintenance of trails to accomodate different winter activities (NCC, 2020).

Winter Use

Current winter usage of the SGEC corridor includes snowshoeing, cross country skiing, and tobogganing. Many of these activities are concentrated in Rockcliffe Park. Public consultation for the newly released *Capital Pathway Strategic Plan* (2020) revealed a strong demand for winter use of pathways. Currently, the pathways on the site are not maintained and therefore not desirable for users. Pathways throughout the corridor must be maintained at different levels for different activities: groomed for cross-country skiing, packed snow for walking, and full snow removal for cycling (NCC, 2020). Presently, the SGEC corridor also lacks warming stations, public art, and event programming which would attract people to use the place in the winter.



Image 36: Example of a winter warming station (University of Manitoba News, 2015)

Water Access

As previously stated, the Lower Pathway runs along the Ottawa River, beginning at the National Capital River Pavilion and ending at Green's Creek. Despite the proximity of the trail to the water, there is discontinuous water access as a result of the topography. Other than the National Capital River Pavilion, Rockcliffe Yacht Club, and Blair Road Boat Launch, there are no places for people to safely get to the water. There is a short, steep incline between the path and the water in most places; the drop is steeper and larger in some areas. Whereas the space between the water and the path is sometimes flat and grassy, there are many spots with large weeds and trees hiding the sharp change in grade from the path to the water.

There are also many sharp, large, and loose rocks in between the path and the water, as well as at the water's edge, creating a barrier for water access. Despite the uneven terrain and unsafe conditions, there are a number of desire lines that can be found from the pathway going to the water, likely as a result of the limited designated water access points in the SGEC corridor. This may also be a result of a lack of lookout points and lack of variety in ways to experience the waterfront.

Along the corridor, there are limited opportunities for people to go swimming. The best opportunity for someone to "dip their toes" in the water is at the beach located near the Blair Boat Launch. A new location for swimming along the waterfront will be at the National Capital River Pavilion when its redevelopment is complete. Although there are some areas for swimming on the site, swimmer safety is a concern due the current of the Ottawa River. In addition to concerns about the current of the river, there are also issues concerning health. The City of Ottawa collects water samples at select beaches in the summer months to ensure that the river does not contain elevated levels of E. coli bacteria (Ottawa Public Health, 2020). The bacteria is troublesome and can result in illness if one is exposed to unsafe levels of the bacteria in the water (Ottawa Public Health, 2020).



Image 37: Picnic area near Birch Avenue Parking lot. While the proximity to parking is convenient, this picnic location does not offer any other amenities such as washrooms, water fountains, public art or views of the water.



Image 38: Large weeds and trees hiding the short steep drop between the Lower Pathway and the water.

Recreation Implications for SGEC Corridor Design

The SGEC corridor design presents an opportunity to activate, preserve, and enhance the natural waterfront and its amenities. Destinations should be created along the Parkway to encourage local, national and international visitors to stay and enjoy the Parkway in all seasons. Public art and event programming can make the space more attractive to users. A variety of active and passive recreation nodes should be created to suit the activities of all users. Active nodes (such as a boat launch) include functional recreational activities while passive nodes (such as a lookout) do not necessarily have staffing or activities. There should be an emphasis on creating a variety of different experiences of the water including lookout points, walking/cycling paths with views of the water, boardwalks, piers/ramps for passive paddle sports, seating along the water, and clearly marked spots for direct access to the water.

Furthermore, opportunities to include a swimming pool could be explored near the Blair Boat Launch. In Berlin, a decommissioned barge was used to create a floating pool in the Spree River (Archtalent, n.d). The incorporation of safe swimming facilities will help draw people to the corridor. In this regard, the presence of a floating pool may help activate the corridor and enhance user experience and safety.

Overall, any proposed development of the waterfront should be concentrated to reduce the impact on the surrounding environmentally sensitive areas.



Image 39: Floating pool in the Rover Spree in Berlin (badeschiff) (Archtalent. (n.d)).

3.5 Utilities

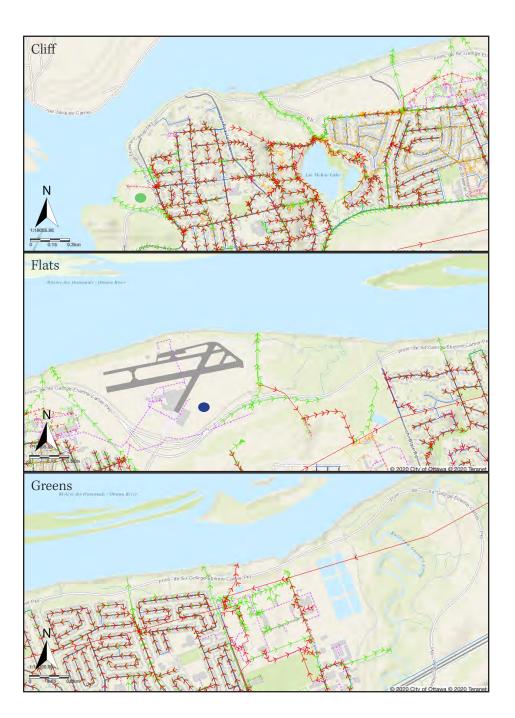
Underground infrastructure, such as water and wastewater services, were analyzed using the "Water and Wastewater Network" mapping provided by the City of Ottawa. The interactive mapping tool illustrates the types of services along the SGEC Parkway, in addition to the flow direction. Figure 11 shows the City of Ottawa's infrastructure mapping for the three character areas. The figures illustrate the approximate location of the City's underground services. Figure 11 illustrates the absence of water and wastewater services along the Parkway. The lack of these services along the Parkway is wholly due to the lack of residential, commercial, and other similar uses immediately along the Parkway. However, the mapping indicates that both the Rockcliffe Pavilion (green dot) and the Canadian Aviation and Space Museum (blue dot) connect to services supplied by the City of Ottawa.

Implications of Utilities for the SGEC Corridor Design

The lack of water and wastewater services has a significant impact on what could be proposed in the study area. The lack of infrastructure implies that any future enhancements of this corridor will also require additional infrastructure to support it. Potential enhancements include washrooms, water stations, and restaurants or snack bars. However, if the proposed enhancements cannot connect to the existing services, the NCC should explore alternative solutions. Such solutions concerning water services may include drilling a well or trucking in water to support a cistern and drawing water from the river for firefighting. To handle wastewater, the NCC may have to install a septic system where there is no option to connect to existing services. If these alternative solutions are required, the services should be clustered together for efficiency and to mitigate environmental effects. For example, have one septic system designed to handle wastewater from all the enhancements, rather than having a septic system for each.

Throughout the length of the Parkway, there are underground stormwater drainage outlets (green dotted line). These outlets take stormwater from surrounding neighbourhoods and drain into the Ottawa River. The location of these outlets requires special landscaping treatment to shield their view from pathway users.

Figure 11: Existing infrastructure in each of the three character areas within the study area. The magenta dotted line indicates the location of water infrastructure; the red dotted line indicates the location of wastewater infrastructure; and the green dotted line indicates the stormwater infrastructure location (City of Ottawa, 2020b).



3.6 Transportation and Mobility

Road Access

The SGEC Parkway is a two-lane bi-directional parkway that runs west to east along the south side of the Ottawa River. At its western end, the SGEC Parkway connects to the end of Confederation Boulevard, a ceremonial and discovery route that passes by several nationally significant institutions, heritage sites, and symbols throughout the Capital (NCC, n.d.-b). Hence, the Parkway can be easily accessed by visitors exiting downtown Ottawa through Sussex Drive, which extends to Princess Avenue and leads to the main western entrance into the SGEC Parkway. If entering or exiting by this route, visitors are able to pass by or visit Rideau Hall and 24 Sussex Drive: the official residences of Canada's Governor General and Prime Minister, respectively.

In the Cliff and Flats character areas, there are several roads that connect the Parkway to adjacent neighbourhoods, such as New Edinburgh, Rockcliffe Park, and Manor Park. These local road connections can be seen in Map 9. Further along the corridor in the Flats, the SGEC Parkway intersects with the Aviation Parkway, which connects to additional neighbourhoods south of the SGEC Parkway. The

Parkway runs west to east until it crosses Green's Creek within the Greenbelt, at which point it runs south almost parallel to Green's Creek.

The Parkway ends at a municipal intersection of St. Joseph Boulevard and Bearbrook Road, forming the only other entry point into the SGEC Parkway east of the Aviation Parkway. Visitors entering the SGEC Parkway at this location may be driving from neighbourhoods in Orléans, or from further communities in Ottawa via Regional Road 174.

Many destinations within the SGEC corridor described in Section 3.3 are accessible by vehicle; Map 9 shows the destinations with respect to the Parkway. Rockcliffe Park can be accessed via Rockcliffe Road, a one-way route that provides a slight detour near the western endpoint of the Parkway. In addition, the Rockcliffe Lookout pavilion is directly accessible from the Parkway, with a few marked parking spaces in front of the pavilion.

Just east of the lookout point, there is also a road leading down to the Rockcliffe Boathouse Restaurant and Marina, with available parking. Further east, the New Edinburgh Tennis Club can be accessed via Rue Tennis, with parking offered by the Ottawa New Edinburgh Club (ONEC), and in close proximity to NCC parking lot P3. To access the National Capital River Pavilion, individuals can also park their vehicles at NCC parking lot P3 or in front of the path toward the National Capital River Pavilion. In addition to connecting the neighbourhood of Manor Park to the SGEC Parkway, Birch Avenue leads to the RCMP Stables.



Map 9: Roadway connectivity to SGEC Parkway.

The Canada Aviation and Space Museum can be accessed via the Aviation Parkway, which intersects with the SGEC Parkway in both directions. East of the Museum, drivers can take C.H Airport-Marina Road and access the Rockcliffe Yacht Club, the Rockcliffe Flying Club, or the Rockcliffe Airport.

There is no direct vehicle access to the Blair Boat Launch from the SGEC Parkway. Instead, vehicles must drive down to the boat launch via Massey Lane which intersects with Blair Road in the neighbourhood of Rothwell Heights. The lack of a direct road from the Parkway may be intentional for safety reasons to avoid having vehicles with boat trailers driving on the Parkway.

Parking

There are nine NCC parking lots along the SGEC corridor, all of which offer free parking (NCC, n.d.-d). There are also two locations with limited parking spaces directly off of the Parkway, specifically in front of the Rockcliffe Lookout pavilion and the National Capital River Pavilion. Four of the NCC parking lots offer the option to "Park & Cycle," allowing cyclists to park their car and potentially bike to work. However, not all parking lots are maintained during the winter. In particular, only P5, P7, and P8 will be plowed during the winter of 2020-2021. Map 10 indicates

the location of NCC parking lots.

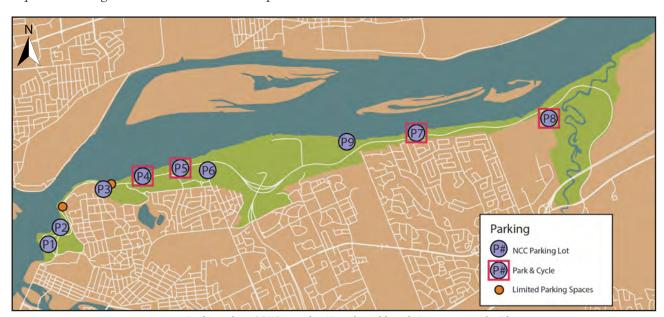
Traffic Flow on ParkwayDespite originally being designed a

Despite originally being designed as a scenic drive for pleasure, the SGEC Parkway is often used as a commuter route for residents in eastern Ottawa heading to or exiting from downtown.

Appendix C depicts the total average number of vehicles on the stretch of the Parkway between St Joseph Boulevard and north of the Queensway overpass, representing the eastern gateway into and out of the Parkway. The data was recorded within 15 minute-intervals on Wednesday, May 9th, 2018 and June 18th, 2019. Vehicles include motorcycles, cars, light goods vehicles, buses, single-unit trucks and articulated trucks. Despite being included in the count, there are very limited numbers of buses and trucks.

The peak periods are in the early mornings and later in the afternoon, with the potential of reaching a total of 300 to 370 vehicles heading in both directions within a 15-minute interval (Appendix C). It is evident that the majority of vehicles in the morning are heading northbound at the recorded points, ultimately leading vehicles toward downtown. In the afternoon, the majority of vehicles are heading southbound, presumably toward the surrounding Orléans communities or to access the Queensway. Throughout the workday, there are between 50 and 100

total vehicles at a time, with the split between directions being roughly similar. Hence, it is clear that the Parkway is a popular road and is currently being used as a commuter route.



Map 10: Parking along SGEC corridor. Note that although P9 represents the Blair Boat Launch parking lot it is not official recognized as P9.

Cyclists on the Parkway

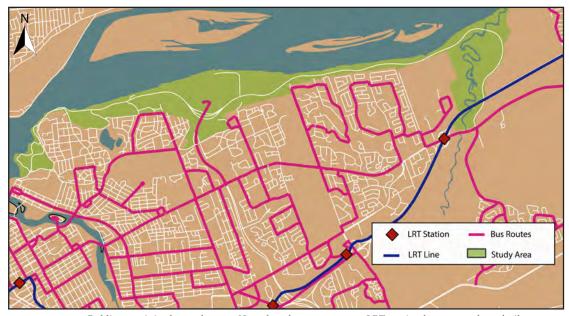
It is common to see cyclists on the Parkway. It is not as obvious whether cyclists use this road primarily as a commuter route, as the numbers fluctuate throughout the day and are not concentrated in early mornings or afternoons. There are instances in the morning where there are more cyclists heading north toward downtown, and more heading south in the afternoon, but it is important to note that the numbers are relatively low to begin with. At 6:45 PM, there does seem to be a significant increase of cyclists heading in either direction, possibly indicating that the Parkway is used by cyclists to enjoy an evening bike ride (Appendix C).

The popularity of the Parkway for cyclists is more evident during weekends of summer 2020. The Parkway was closed to vehicles between 8 AM and 4 PM as a pilot project during the COVID-19 pandemic. On some weekends, there was a total of up to 2,000 cyclists on the SGEC Parkway, with the most popular times being between 9 AM and 1 PM (Appendix C). The high numbers indicate that the pilot program was well-received by the public and that it may be worthwhile to continue closing the Parkway to vehicles on the weekends.

Public Transit

The SGEC Parkway is not served by regular public transit routes. Bus route 25 crosses the SGEC Parkway along the Aviation Parkway to the Canada Aviation and Space Museum, but this route offers occasional trips only (OC Transpo, 2020). There are other OC Transpo bus routes that run within surrounding neighbourhoods, as seen in Map 11. Individuals interested in cycling along the SGEC corridor can mount their bikes on certain buses and Light Rail Transit (LRT) trains, making the Parkway accessible to more users.

The new LRT line also has a few stations south of the Parkway, with the closest one being Rideau Station, roughly 3 km away from the western terminal access point into the Parkway. On the eastern side, the current closest LRT station is Blair Station, 4 km away from the eastern terminal access point into the Parkway. As part of Stage 2 of the LRT plan, an eastern extension is scheduled to be added by 2024, which would include the replacement of current bus stations like Montréal, Jeanne d'Arc, and Place d'Orléans (City of Ottawa, 2020a). These changes could bring visitors closer to the Parkway. Western and southern extensions are also planned, increasing connectivity throughout the entire city. A well-connected transit system could work to divert vehicles off of the SGEC Parkway by providing alternatives for individuals who normally drive to work.



Map 11: Public transit in the study area. Note that the eastern-most LRT station has not yet been built.

Multi-Use Pathways

As noted in the section on traffic flow, the Parkway is often used for the purpose of commuting between downtown and the east of Ottawa. However, there are pathways and opportunities for visitors to enjoy pleasurable strolls, bike rides, and even skateboarding or rollerblading. Within the SGEC corridor, there are three multi-use pathways that are owned and maintained by the NCC: the Ottawa River Pathway, the Aviation Pathway, and the Greenbelt Pathway East (Map 12).

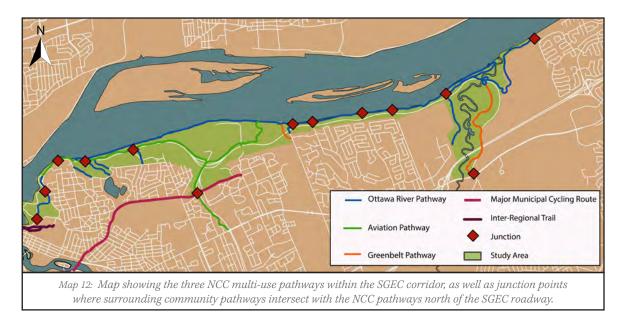
Ottawa River Pathway

The Ottawa River Pathway (ORP) is divided into two main segments, one west of Ottawa's downtown core, and the other east of it. The eastern segment runs west-to-east along the SGEC corridor, beginning at the Princess Avenue/SGEC Parkway roundabout and extending past the Parkway to abruptly stop at the boundary between NCC lands and Hiawatha Park, a municipal neighbourhood. At times, the

ORP runs adjacent to the Parkway, specifically near Rockcliffe Park, but upon intersecting with the Aviation Pathway near the National Capital River Pavilion, the ORP diverts toward the water, serving as the Lower Pathway. The Upper Pathway portion of the ORP is paved and marked to indicate two directions and is smooth enough for individuals with rollerblades or a skateboard to comfortably use the path. On the other hand, the Lower Pathway consists of unpaved crushed stone, which is not ideal for some users but can still be used by cyclists and pedestrians. Unfortunately, the Lower Pathway experiences frequent flooding events resulting in closures and repairs as discussed in Section 3.1.

Aviation Pathway

The Aviation Pathway runs east-to-west and north-to-south, beginning slightly west of the National Capital River Pavilion up to slightly east of the Canada Aviation and Space Museum. At the Museum, the Aviation Pathway runs south along the Aviation Parkway. This pathway serves as the Upper Pathway along its course in the SGEC corridor and has a few branching connections to reach the Lower Pathway. It ends south, at the intersection of Ogilvie Road and the Aviation Parkway.



Greenbelt Pathway East

The Greenbelt Pathway East branches off from the Ottawa River Pathway at the point where the SGEC Parkway crosses over Green's Creek. This pathway, consisting of stone dust, runs south following Green's Creek until Tauvette Street, on the western border of the Blackburn Hamlet neighbourhood.

Connectivity to Surrounding Communities

One of the fundamental strategies of the NCC's *Capital Pathway Strategic Plan* (2020) is to increase the connectivity of pathways to local and municipal trails or bike paths, in order to create an integrated mobility network. Map 12 depicts the existing NCC multi-use pathways and intersections with surrounding municipal cycling routes and paths. There are many junction points between the NCC pathways within the SGEC corridor and the local paths from surrounding communities. For example, neighbourhoods (Appendix B) such as Rockcliffe Park, Manor Park, Rothwell Heights, Rothwell Village, and Beacon Hill North all have active transportation pathways leading to the SGEC Parkway. The new subdivision on the CFB Rockcliffe site also proposes an active transportation pathway to the SGEC Parkway.



Image 40: The NCC Capital Pathway Plan proposes to develop an official pathway where this desire line connects the east side of Manor Park to the Aviation Pathway (Google, 2020a).



Image 41: A narrow and poorly maintained local trail connecting the SGEC Parkway to Beacon Hill North. Note the lack of an official crossing on the Parkway, despite the presence of a pathway north of the Parkway (Google, 2020b).

According to *Capital Pathway Strategic Plan* (2020), the NCC is proposing to build one pathway between the north-south portion of the Aviation Pathway and east of Manor Park. In fact, there is already an informal trail there showing a desire line (Image 40). There are other local trails within the SGEC corridor that could also benefit from proper paving, but which have not been noted in the Plan. Images 41 and 42 show examples of narrow and poorly maintained trails and a lack of official crossings to allow active transit users to safely cross the Parkway.

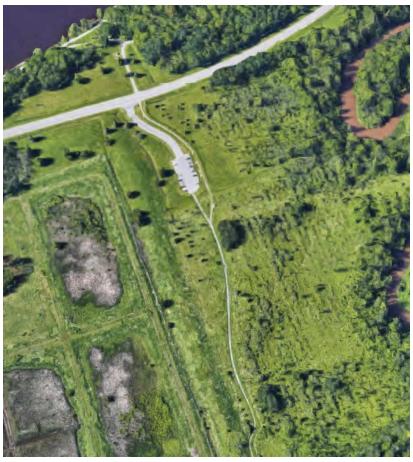


Image 42: A narrow and poorly maintained bike trail connecting NCC P8 Parking Lot to Canotek Road, east of Beacon Hill North. Note the lack of an official crossing on the Parkway, despite there being the option to "park & cycle." (Google, 2020c.)

Interprovincial Connection

Along the SGEC corridor, there is no bridge or ferry that can allow vehicles or individuals to traverse the Ottawa River to Gatineau. However, between 1873 and 1985, there was a ferry service between the current Rockcliffe Boathouse Restaurant and Marina and Gatineau Point. In 1985, the new owners converted the ferry and boat facility into the current restaurant and marina (Bunke, 2020).

Transporation and Mobility Implications for SGEC Corridor Design

Based on the analysis of transportation and mobility along the SGEC corridor, some implications must be considered when designing an improved parkway experience.

Most destinations along the SGEC Parkway can be accessed by private vehicles. However, improvements can be made, such as providing winter maintenance of the parking lots and redesigning the access points. For example, although vehicles can drive right to the Rockcliffe Lookout, the direct proximity to the road and small parking lot makes it difficult for vehicles to safely turn in or back out directly on to the Parkway, especially when there is a constant flow of traffic.

Overall, the Parkway is oriented primarily for the use of cars and is regularly used as a commuter route. This is contrary to the main purpose of a parkway, so planning efforts should be made to discourage commuting vehicles while encouraging more active transportation and leisurely activities. However, for a more thorough analysis, further surveys of the SGEC Parkway should be completed and compared with other two-lane parkways, such as Queen Elizabeth Driveway in Ottawa.

Active transportation infrastructure can be enhanced by improving and building more accessible paths from communities and installing designated crossings along the Parkway. These would all have added costs for the NCC, as paths must continuously be maintained. The high numbers of cyclists on the Parkway during the pilot program indicate that the initiative was well-received by the public and that it may be worthwhile to continue closing the Parkway to vehicles on the weekends. There may also be interest in closing the Parkway to vehicles in the weekdays in order to encourage active transportation as a mode of commuting to work; however, more data may be necessary to determine the demand for such an initiative.

Despite the presence of public transit around the study area, there is a need for more direct public transit access to the different destinations along the SGEC Parkway. A balance would need to be found between increasing public access to the Parkway and avoiding making the SGEC Parkway into a bus transitway.

Finally, consideration should be given to creating an interprovincial connection between Gatineau and the SGEC Parkway in Ottawa. This could possibly take the form of a water bus connection, subject to further transit feasibility studies.

3.7 Safety

Ensuring the safety for users of all modes of transportation is necessary in making the SGEC corridor usable and inviting. There are some segments along the corridor that have safety design features, while other areas may be lacking in this respect.

Barriers and Buffers

Barriers are useful for separating and protecting vulnerable users from vehicles or from the topography of the Parkway, including steep slopes and the water. There are many examples of physical and natural barriers throughout the SGEC corridor, as seen in the following images (Images 43 and 44).



Image 43: Physical barriers on either side of the pathway near Rockcliffe Park neighbourhood, protecting active transportation users from vehicles and the steep drop to the water.



Image 44: A form of a fence can be found on certain segments of the SGEC Parkway near the pathway connection to Ogilvie Road. It may have been installed to protect cyclists from falling into a ditch (Google, 2019b).



Image 45: A natural green buffer between the lower pathway and the water.

There are, however, instances where the pathway runs directly adjacent to the roadway or near a slope without a barrier or buffer, which can be a reason for concern (Images 45-48).



Image 46: A natural green barrier between the pathway and the roadway.



Image 47: Father with baby stroller on narrow pathway with no buffer; adjacent to SGEC Parkway east of Rockcliffe Lookout.



Image 48: Jogger on pathway adjacent to SGEC Parkway, with vehicles driving close by.

Crossings

The availability of controlled and visible crossings is crucial for increasing safety and access to the Parkway for all users. According to Bunke (2020), members of the communities surrounding the Parkway have noted the lack of crossings as a concern, leading to conversations about the installation of crossings.

There are very few designated crossings along the SGEC Parkway, and most do not give priority to pedestrians or cyclists. For example, along the Parkway east of the Rockcliffe Lookout, there is a marked crossing and an island between the two lanes for pedestrians and cyclists to wait for vehicles to pass. Considering that the stop sign is for users on the pathway and not the roadway, it is evident that priority is being given to vehicles (Image 50 and 51). There is another designated crossing near the ONEC Tennis Club. Similarly, it is not controlled, and pedestrians must wait until there are no vehicles before crossing. This may be challenging in peak periods or even throughout the day given that there can be a high volume of traffic on the Parkway, as discussed in Section 3.6.

Controlled crossings are lacking wherever there are clear paths from surrounding neighbourhoods or destinations, where individuals would naturally cross to access the pathways and water on the north side of the Parkway. This is also an issue for cyclists or pedestrians who park their vehicles in a parking lot south of the Parkway and need to cross in order to access the NCC pathways.



Image 49: Abrupt beginning of pathway on SGEC Parkway (eastbound) at Green's Creek Overpass. There is no crossing for pedestrians to safely access this from the Ottawa River Pathway, and the curb is not dropped for cyclists, strollers or wheelchairs to access (Google, 2019a).



Image 50: One of the few designated crossings on the SGEC Parkway, with priority being given to vehicles.



Image 51: Unlike the rest of the Parkway, there are marked crossings and stop signs for vehicles where the Aviation Parkway intersects the SGEC Parkway, consequently giving priority to other modes of transportation (Google, 2019d).

Conflict of Users on Multi-Use Pathways

The NCC pathways are intended to be shared by multiple users, but this can sometimes cause conflict, as discussed in the *Capital Pathway Strategic Plan* (NCC, 2020). It is not uncommon to find commuter cyclists travelling at high speeds using the Parkway rather than the pathways, which have a speed limit of 20 km/h. However, this could create a safety hazard; if cyclists choose to bike on the narrow or non-existent bike lanes on the Parkway, they may be putting themselves at risk by being so close to fast-moving vehicles. On the other hand, if these faster cyclists choose to bike on the pathways, this may pose a threat to the more vulnerable users, such as pedestrians.

Lighting and Isolation

Lighting is a weakness of the SGEC corridor. There are some segments along the Parkway that have street lampposts, particularly near the neighbourhoods in the Cliff. However, apart from these segments, there is no lighting on the rest of the roadway. Nor is there lighting on the Upper or Lower Pathway. This could be a safety concern for individuals using the SGEC corridor in the late evenings, particularly in areas of dense forest.

The lack of lighting can add to the feeling of isolation along the pathways as well. A sense of isolation may be experienced along the Lower Pathway in particular, especially along stretches where there are no busy activity nodes bustling with people. There is also a risk of vandalism and assaults. For example, in 2003, a female cyclist was murdered near the Ottawa River in the Greenbelt area (Lunman, 2003). Although this case may not be recent, it highlights the importance of ensuring that all users are safe and visible.





Image 52: NCC signage for multi-use pathways, indicating speed limit and requirement to share the path (left). Users of various modes of transportation can be found on the NCC multi-use pathways, including individuals riding electric scooters. (right)



Image 53: Absense of lighting along the Parkway.

Safety Implications for SGEC Corridor Design

The findings of this safety analysis point to numerous important safety implications that would influence the design of the SGEC corridor. There is a clear need to ensure safety and give priority to non-vehicle users, such as pedestrians and cyclists. The installation of visible and marked crossings in strategic positions is key. In addition to introducing traffic calming measures for vehicles such as narrowing travel lanes, infrastructure is needed to provide high-speed cyclists with a safe alternative to biking directly on the roadway or the pathways. A segregated bike lane with a barrier adjacent to the road is one way to achieve this, as more vulnerable users on the pathways would also be safer. Where a segregated cycling lane is not possible, traffic calming measures should also be used for cyclists.

With regards to lighting, the NCC provides guidelines in the *Capital Illumination Plan, 2017-2027* (NCC, 2017a). Although only a small segment of the SGEC corridor is within the core area (i.e., Rideau Hall), the principles and guidelines in the plan serve as best practices for the entire corridor. The plan recognizes that safety is the main priority when considering lowering lighting levels (NCC, 2017a). In these cases, the plan suggests the use of remote-controlled or motion-activated lighting in low-traffic and low-speed spaces, such as recreational pathways, parks, courtyards, and parking lots (NCC, 2017a).

In addition, the plan provides curfew parameters for street illumination, recommends streetlight activation at sunset, and suggests reductions in light intensity after midnight. Concerning pathway safety, the plan recommends that illumination be considered in conflict zones such as crossings and intersections (NCC, 2017a). The plan seeks the creation of "pedestrian ambiances" consisting of soft, uniform, and human-scaled lighting (NCC, 2017a).

By following the principles set out in the *Capital Illumination Plan* (NCC, 2017a), lighting recommendations for the SGEC corridor will also be consistent with ones found in other NCC riverfront park plans. For example, both study areas in the *Ottawa River South Shore Riverfront Park Plan* (2018) and the *Ottawa River North Shore Parklands Plan* (2018) fall within the scope of the *Capital Illumination Plan* (NCC, 2017a). The proposed design of the SGEC Parkway will strive to ensure that illumination reinforces feelings of safety and accessibility throughout the SGEC corridor.

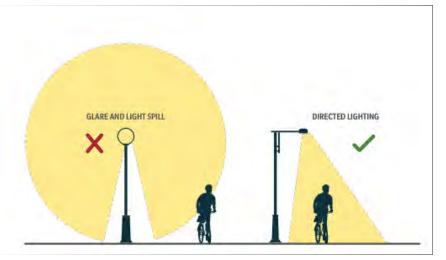


Image 54: Illumination strategies should avoid glare and light spill and use directed lighting for user safety as well as maintaining environmental integrity (NCC, 2020).

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4.0 SWOC ANALYSIS

After thorough research and analysis of the site and relevant policies, the team completed a SWOC (strengths, weaknesses, opportunities, challenges) analysis. The SWOC analysis determined the key areas of focus within the site. These areas of focus vary by physical, economic, social and political factors. The team used the SWOC to inform the themes for the planning workshop held on October 23rd, 2020. Additionally, the SWOC analysis was used to guide the visioning process that informed the design proposals for the site. The SWOC is summarized below and further expanded on in the following sections.

Strengths (internal)

- 1. Excellent views and scenic landscapes at existing lookout points.
- 2. All season waterfront and recreational activities already present.
- 3. Bike lanes separated by barriers along some parts of the Parkway (physical fence east of Rockcliffe Boathouse/Marina/Restaurant; otherwise natural green barrier on Aviation Pathway which ends around Blair Boat Launch).
- 4. Continuous waterfront access in most areas of the SGEC Parkway.
- 5. SGEC Parkway provides transportation connections between the urban areas of the City, the Greenbelt, and Orléans.
- 6. Rich heritage and archaeological potential in districts like New Edinburgh and Rockcliffe.
- 7. Strong natural heritage system along the SGEC Parkway including Green's Creek, Ottawa River, and Greenbelt.
- 8. Vehicular parking available at many points along the Parkway.
- 9. Ownership by a single agency.

Opportunities (external)

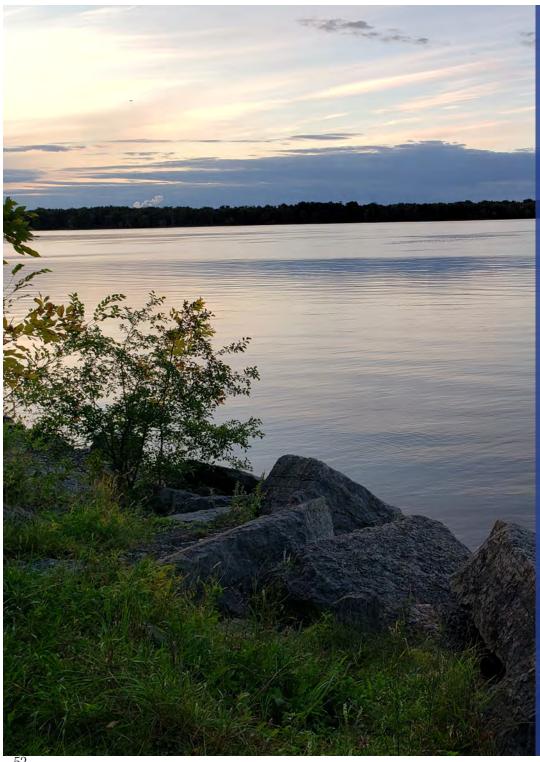
- 1. Existing pathways can be enhanced to incorporate age friendly design elements.
- 2. Park space and recreation activities can be expanded.
- 3. Landmarks can be created for wayfinding along the Parkway and pathways.
- 4. Improve active transportation connectivity and safety along the SGEC corridor.
- 5. Improving street design to improve active transportation safety and traffic functions.
- 6. Use complete street design elements to reimagine the Parkway.
- 7. Showcase Ottawa as a waterfront capital.
- 8. Many locations to commemorate the diverse history and heritage of the study area.
- Many existing tourist destinations (historically and nationally significant sites) located near/ along the Parkway.

Weaknesses (internal)

- 1. Safety issues faced by pedestrians, cyclists and park users.
- 2. Lack of universal accessibility.
- 3. No winter maintenance of trails.
- 4. Lack of amenities and activity nodes with many existing facilities hidden or inaccessible.
- 5. Limited direct access to the water.
- $\,$ 6. Parkway ends abruptly and there is no sense of entering or exiting a federal node.
- 7. Discontinuous bike lanes along the Parkway.
- 8. Upper Pathway does not run the length of the waterfront.
- 9. Lack of wayfinding along the corridor.
- 10. Limited view of the water along much of the pathways and Parkway.
- 11. Shoreline erosion contributes to steep slope along the shoreline.
- 12. Incomplete heritage/archaeological inventory.
- 13. Topographical constraints due to natural landscape.

Challenges (external)

- 1. Lack of local street and transit access to the Parkway corridor.
- 2. SGEC Parkway used heavily as a commuter road.
- 3. Lack of connections to the Gatineau side of the Ottawa River.
- 4. Potential tension and opposition to redefining the purpose of the Parkway and challenging its current role as a commuter route for vehicles.
- A rise in urbanization near and beyond the Parkway, increasing congestion and use of Parkway.
- 6. Finding a balance between creating recreation opportunities, preserving natural heritage, and mitigating environmental impacts.
- 7. Climate change causing more frequent flooding of the Lower Pathway and erosion of the landscape/shoreline.
- 8. The presence of invasive species.
- 9. Limited utility and servicing connections.



Strengths

The SGEC corridor provides active transportation infrastructure that leads into the east end of the City from downtown Ottawa, with many opportunities to stop and take in the spectacular views at locations such as Rockcliffe Lookout Pavilion and the Ottawa River Lookout. The Lower (multi-use) Pathway, situated adjacent to the Ottawa River, provides ample opportunity to experience the views of the River, as well as views of the park space along the north shore of the Ottawa River and the City of Gatineau across the river.

The corridor is home to a variety of significant natural and cultural heritage features. Natural areas such as Green's Creek, Lower Duck Island, and Airbase Woods provide valuable natural habitats on the site. Additionally, the Ottawa River, which is a heritage river and runs along the entire length of the Parkway, can be passively appreciated along the Lower Pathway and actively engaged with at the various waterfront nodes throughout the site. One of the key strengths of the Parkway is also the rich cultural and built heritage on the site, particularly in the New Edinburgh and Rockcliffe neighbourhoods. The Parkway's surrounding neighbourhoods enhance the site by providing connection points into the pathways and nodes. Access is available for drivers from connecting roads and for pedestrians using multi-use pathways and trails.

There are a variety of waterfront activities already available on the site. Nodes such as Blair Boat Launch and the Rockcliffe Yacht Club offer the opportunity to launch a recreational watercraft, while the Rockcliffe Boathouse and Marina allows patrons to dine in full appreciation of the River. In addition to waterfront activities, the site allows visitors to enjoy airplane tours at the Rockcliffe Flying Club, learn about Canada and aviation history at the Canada Aviation and Space Museum, and enjoy learning about the RCMP and seeing the horses at the RCMP Stables. The Parkway is uniquely able to provide a large, varied, and wonderfully naturalized park next to the downtown core of Canada's Capital city. The pathways on the site allow for visitors to enjoy a leisurely, contemplative cycle or walk and the roadways ensure a pleasant drive for vehicle users. A critical strength of the Parkway is its singular ownership by a large federal agency. Since this agency also owns other parks and parkways in Ottawa, there is an opportunity to develop a world-class pathway network for the city. The team will ensure that the proposed designs will recognize and enhance the strengths identified on the site.









Image 55: No barrier between pedetrian and cars (top left). Steep, unsafe slope to water (top right). No pedestrian priority to cross the SGEC Parkway (bottom left). Cliff restricting road realignment or new pathways (bottom right).

Weaknesses

One of the key weaknesses of the study area is the lack of safety, ultimately affecting the user experience. The factors that make the site unsafe include lack of lighting, isolated areas along the pathways and park, and no winter maintenance of trails and some facilities (e.g. some parking lots). Furthermore, there are few universally accessible connections as well as few signalized crossings on the parkway, which makes crossing from the south side of the Parkway to the north side more difficult and unsafe. The high-speed vehicles along the Parkway impede safety for commuter cyclists and individuals trying to cross the roadway. Additionally, wayfinding and amenities are also limited, making it somewhat difficult for visitors to locate connecting pathways, nodes, and facilities. The site also faces some topographical constraints, particularly in the Cliff character area, where space is constrained and there is limited area for roadway realignment or new pathways. It is also difficult to access the site via public transit and active transportation, resulting in cars being the favoured method to reach the Parkway.

For a parkway corridor that runs so close to the water, the site has limited views of the water. From the roadway and from the Upper Pathway, the view of the water is often impeded by trees, some of which may be invasive species. Relatedly, there are a number of invasive species on the site, which negatively impact native species on the Parkway. Additionally, shoreline erosion near the Lower Pathway contributes to a steeply graded slope into the water in some parts of the site, a potential safety threat for visitors. In contemplating its design proposals, the team will seek to address these weaknesses.

Opportunities

There are a variety of opportunities to enhance and improve some components of the SGEC Parkway. Existing pathways can be enhanced to be more age-friendly through low-impact measures such as increased seating and rest areas. Additionally, there are several areas of underutilized space that could be used for activity nodes that contain recreational activities, wayfinding, and historical commemoration, capitalizing on the Parkway's strengths in natural and cultural heritage.



Image 56: Age friendlly design should include everyone from 8 to 80 (NCC, 2020).

There is also an opportunity to create partnerships with Indigenous Peoples, organizations such as the Société franco-ontarienne du patrimoine et de l'histoire d'Orléans (SFOPHO), and other local organizations. These relationships will be key to ensuring that the Parkway recognizes diverse histories while providing new educational and commemorative experiences for visitors.



Image 57: An example of a pathway groomed for winter recreational use along the St. Charles River (Bonjour Quebec, n.d.).

With respect to infrastructure, there is an opportunity to explore the idea of different types of interprovincial crossings to connect to NCC Lands, across the Ottawa River, in Gatineau. There are also several opportunities along the Parkway to realign the road to provide for more open space that can be used for parks and recreation. Realigning the road and utilizing the underused space on the south side of the Parkway will allow for the opportunity to create dedicated commuter cycle lanes adjacent to the road, encouraging leisure cycling to take place on the multi-use pathway. Cyclist infrastructure throughout the site can be enhanced with improved linkages between pathways, to allow for continuous cycling throughout the site. Design proposals by the project team will strive to seize the opportunities presented in this section.

Challenges

The main land designations within the SGEC corridor are park, open space, and environmental designations. Although necessary, this limits the scale, location, and type of recreational activity that can be proposed on the site. Conversely, by prioritizing environmental preservation, there is an opportunity to educate visitors on protected ecosystems.

Even though the Parkway's location along the Ottawa River is a strength, there are challenges associated with maintaining the inherent user experience of the Lower Pathway as a waterfront pathway while protecting the shoreline from erosion. Due to annual weather events stemming from climate change, the Lower Pathway is often flooded during part of the year. These weather events have also increased erosion along the Lower Pathway. Since the Upper Pathway does not run the length of the site, this can result in some areas having no pathway at all following severe storm events.



Image 58: Flooded National Capital Commission pathway, behind Parliament Hill, in 2019 (The Canadian Press, 2019).

Additionally, climate change threatens the plant and animal life in the Parkway's natural areas, which are already negatively impacted by invasive species.

The parkway is currently used as a commuter route for people to get from the east end suburbs of the City into downtown Ottawa. Evidence suggests that the population of surrounding neighbourhoods is set to increase over the next few decades. This will further exacerbate the Parkway's use as a commuter route, making it increasingly challenging to balance the competing interests of commuters and leisure users. Vehicle speeds on the road are a challenge for creating a corridor that prioritizes pedestrians and active transportation.

While it may be difficult to address some of these challenges, good design and policy can minimize the effects of and sometimes even overcome some of the challenges, which would enhance the user experience of the SGEC corridor as a whole. The project team will prioritize the balance of increased recreational use and environmental preservation in design proposals of the study area.

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5.0 PRECEDENTS

To envision the future design of the SGEC Parkway, 46 precedents were analyzed using an evaluation framework. Precedents were selected based on the three distinct character areas. Additionally, an assortment of different spaces were selected, ranging from parkways and parks, to beachfront boardwalks, urban promenades, and trails. Doing so ensured that the selected precedents draw from best practices from a variety of well-designed open spaces and recreational areas.

While most of the selected precedents are best practices and provide good examples for the SGEC corridor, some weaker precedents were selected in order to study what factors contributed to their demise. The list of 46 precedents were narrowed down to 30, and include high-scoring precedents for each of the character areas and for the whole site, as well as some bad examples that provided guidance on what not to do in the design phase. This selection framework and brief profiles of the 30 selected precedents are presented in Appendix D, which includes background information, design characteristics, and lessons drawn from each. This chapter presents a summary of the best precedents for the SGEC corridor as a whole, as well as two examples per character area.

5.1 Best of the Best: Vancouver Waterfront

The system of waterfront promenades in Vancouver best exemplifies elements of all three character areas, incorporating best practice examples for each theme and highlighting what can be achieved on the SGEC Parkway. While fundamentally different from the SGEC Parkway in its existing conditions, the Vancouver network demonstrates the potential that can be unlocked on the SGEC Parkway in many respects, particularly regarding activity nodes, waterfront activation, and multimodal, well-connected pathways.

Vancouver's network of waterfront promenades, walkways, and bikeways is one of the most extensive such networks anywhere in the world. The initial idea for the waterfront promenade network in Vancouver was proposed in 1929 by Harland Bartholomew in A Plan for the City of Vancouver, in which he identified the importance of retaining the city's waterfront for public use (Bartholomew, 1930). Like many city planners and designers of the time, Bartholomew proposed a pleasure drive, with his proposal suggesting a drive around the waterfront, with open space from the road to the water to allow people to access the waterfront and enjoy the public space. Although most of the drive was not built, the open space and promenade network was built, beginning with Stanley Park and the Stanley Park Seawall.

From then on, the preservation of public open space and recreational areas became embedded in Vancouver's identity and character, driving policies that emphasized the importance of waterfront parks and views (Macdonald, 2018). This ensured that former industrial areas on the water would transform into vibrant residential developments with public waterfront park space.



Image 59: The Vancouver Waterfront Promenade Network, which allows one to walk or cycle from Kitsilano Beach to Coal Harbour (Macdonald, 2018).

Policymakers, planners, and the community worked to implement their vision of the public realm and the waterfront, culminating in projects such as the Stanley Park Seawall, the promenades around English Bay, and the promenades of False Creek South. Most remarkable about this design is that it is possible to continuously cycle or walk all the way from Coal Harbour around Stanley Park, into English Bay and up False Creek, and finally along Kitsilano's waterfront. The route is then picked up from Jericho Beach Park along the waterfront until Spanish Banks Beach. The 2010 Vancouver Winter Olympics provided the impetus for further public realm improvements along Vancouver's waterfront, with new promenades along Coal Harbour and False Creek North built as part of the Athlete's Village housing (Macdonald, 2018).

Generally, the promenades are far away from traffic, providing a good buffer from vehicle noise and pollution. In addition to providing walkways and cycling infrastructure, some of the areas of the promenade provide for cafés and community centres. The Point Grey beach promenades are dirt paths about three to eight metres wide with some benches and picnic tables used by walkers and cyclists. The Kitsilano path is similar, except it is paved with concrete and offers excellent access to many of the beautiful beaches in the area. There is a 4.6 metre wide shared path for walkers and cyclists in South False Creek that is mostly paved. Along the West End, a relatively narrow pedestrian and cycling path exists separated by park space, with the pedestrian path often running along the water while the cycling path mostly runs through green space.

Around Stanley Park, a 6.1 metre wide pathway sits adjacent to a 1.2 to 2.4 metre high Seawall, with paths separated by a 16 centimetre rounded curb. For False Creek North and Southeast False Creek, as well as for Coal Harbour, there are 4.6 metre wide pedestrian and cycling paths separated by a green median.

All of these paths are highly accessible, with local roads leading into most of them and bus transit connection existing near all of the promenades with some even having Skytrain (light rail transit) stations nearby. The promenades are well used by locals on weekdays and weekends, with the newer Coal Harbour, False Creek North, and Southeast False Creek ones being used the most often (Macdonald, 2018). Pedestrians are often strolling casually and enjoying the natural scenery and social environment.

The promenade system in Vancouver provides an excellent example of how community support and political will can unite to protect and enhance public space.

The waterfront is an integral part of the city's identity, and a long history of pedestrian-oriented planning has allowed this great asset to be enjoyed by Vancouverites every day. Although there is not much programming on the site, there is excellent access to and from local streets, allowing pedestrians, cyclists, and transit riders to access the waterfront on a whim. Additionally, the promenades provide excellent views of English Bay, the Burrard Inlet, and Vancouver Harbour.

The promenades are well-separated from vehicles, allowing the public space to remain almost exclusively within the purview of people, not cars.



Image 60: Promenade network on Southeast False Creek (Macdonald, 2018).

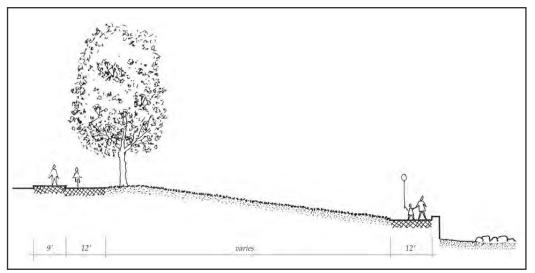


Image 61: West end of Stanley Park. Promenade hugs the water with a seawall.

Other multi-use pathways are meters away (Macdonald, 2018).

5.2 Excellent Precedents: Cliff Character Area

The Cliff character area is characterized by a concentration of capital landmarks, heritage structures, various points of interest, steep slopes including a large cliff dropping 30 metres to the Ottawa River, Rockcliffe Park, narrow green spaces, and a single path (refer to section 1.3 and section 3.3). All of these characteristics were considered in selecting precedents that corresponded to the Cliff character area. The best precedents provide important lessons that can be applied to public realm improvements in the Cliff character area. The precedents to be highlighted in this section are the George Washington Memorial Parkway and Stanley Park's Seawall.

George Washington Memorial Parkway

While much of the George Washington Memorial Parkway resembles the Greens character area, the relatively steep slope from the parkway to the Potomac River resembles the one that exists on the SGEC Parkway. More importantly however, the parkway contains many activity nodes that

provide programming about the capital, American history, and George Washington, after whom the parkway is named, providing interesting insights for the Cliff character area.

The parkway contains two lanes of automobile traffic in each direction, divided by a median that is sometimes landscaped. The parkway also offers a variety of outdoor activities, including cycling in Fort Hunt Park and the paved multi-use Mount Vernon Trail. Whether visitors are enjoying these activities or just driving along the parkway, they can enjoy picturesque views across the Potomac River to the Lincoln Memorial and the Washington Monument, a constant reminder of the federal presence on the site.

This parkway provides excellent best practice takeaways that can be applied to the SGEC Parkway. Although the George Washington Memorial Parkway is not multi-use, it provides strong connections to many of the activity and government nodes along the parkway and provides views of trees and greenery, the Potomac River, and the Lincoln Memorial and the Washington Monument.



Image 62: An aerial view of the George Washington Memorial Parkway, showing lush greenery and a scenic view of the Potomac River (Roadtrippers, 2016).

Furthermore, the trails provide access to important landmarks such as Theodore Roosevelt Island and the Navy Merchant Marine Memorial and provide a scenic place to walk or cycle and enjoy views of the capital.

Importantly, the parkway connects to a variety of activity nodes ranging from recreational activity, nature appreciation, and federal landmarks,

culminating in the Mount Vernon estate of the first American president, which anchors the parkway and honours its namesake (National Park Service, 2020a). While waterfront programming is limited, there are many lookout points along the shoreline and some boat launches as well. The trails also ensure that the waterfront is active and can be appreciated by residents and visitors.

The Cliff character area is the gateway into the SGEC Parkway from a federal node and also contains a majority of the focal points in the SGEC corridor. The George Washington Memorial Parkway provides some interesting lessons that can be applied to enhancing the federal characteristic of this area of the parkway.

Stanley Park

Stanley Park, particularly the Stanley Park Seawall, offers a number of interesting takeaways for the SGEC Parkway, particularly when it comes to the pathway connections, waterfront activation, and activity nodes. The park itself is 405 hectares, with a multi-use pathway on the Seawall running along the park perimeter. In some places, the Seawall provides similar lookouts over the water as the SGEC Parkway.

The Stanley Park Causeway allows for good external connection to and through the site, both from West End and from Lions Gate Bridge. It has an extensive trail system, along with the bike and pedestrian paths on the Seawall, and the vehicle-oriented Stanley Park Drive allows for strong internal connectivity and circulation, allowing access to the overwhelming number of activity nodes on the site.

Along the Seawall, there are a number of viewing points, landmarks, and services such as cafés and restaurants (City of Vancouver, n.d.). The landmarks on the Seawall and in the park in general connect well to Vancouver's identity as a waterfront city, with the beautiful vistas of Burrard Inlet and English Bay serving as constant reminders of this. They also point to the city's history, with landmarks such as the Totem Poles and the Japanese Canadian Memorial providing visitors some context for the space (Kheraj, 2017).



Image 63: Bike paths with scenic views in Stanley Park (Macdonald, 2018).

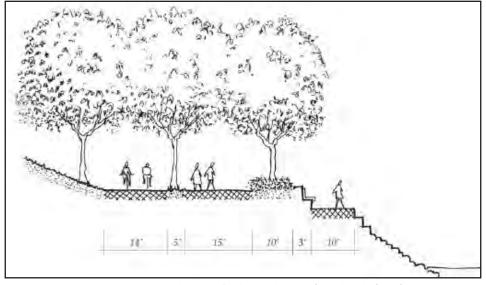


Image 64: Sectional drawing of False Creek North (Macdonald (2018).

There are also beaches in the area off the Seawall which allow for waterfront access as well as seating and rest stops. There is also a rowing club in the park and piers where boats can be launched. In addition to natural areas, the park has extensive recreational grounds, with tennis courts, lawn bowling and a pitch & putt. All of these activities can be accessed from the Seawall, Park Drive, and the extensive system of trails throughout the park.

Stanley Park is an excellent urban park and provides a strong example of what a well-programmed park looks like. The park promenades allow for sweeping views of the scenic nature of the park and English Bay, Burrard Inlet, and Vancouver Harbour. The large size of the park enables it to balance natural preservation with excellent recreational activities. Beaches, boat launches, the Seawall, and a variety of restaurants and landmarks ensure there is an active waterfront as well.

Overall, the park's plethora of well-connected activity nodes and landmarks, excellent waterfront activation, and variety of multi-use trails, pathways, and parkways provide a strong precedent for the SGEC Parkway corridor. However, specific lessons can be taken from the park for its strong connections to Vancouver history, natural surroundings, and the water. Visiting Stanley Park provides users with the feeling of engaging with a unique piece of Canadiana, which is something that can be achieved in the Cliff character area of the SGEC Parkway as well.



Image 65: The Stanley Park Totem Poles are a beautiful piece of public artwork by the Kwakwaka'wakw peoples, first set up in the 1920s. (Kheraj, 2017).



Image 66: The historic Stanley Park entrance from 1890. (Kheraj, 2017. (Originally from: Bailey Bros. Studio, c.1890s)).

5.3 Excellent Precedents: Flats Character Area

The Flats character area is characterized by some water access, various recreational activities, and a two-tiered pathway along much of the character area. It is predominately natural, with trees along the north side of the road and multiple parking lots throughout (refer to Section 1.3 and Section 3.3). The best precedents for this character area will focus on water access, recreation, and pathway connectivity. The precedents to be highlighted in this section are Queens Quay and Lake Wilcox Park.

Queens Quay

Queens Quay, located along Lake Ontario in Toronto, is a beach and promenade located along a 3 kilometre stretch of Toronto's downtown waterfront. Built on formerly industrial land, Queens Quay took 14 years to revitalize and is now saturated with high-density residential condos and commercial property – with more construction to be expected on the south east side. Today, it provides excellent waterfront access for visitors and year-round programming and events.

Queens Quay provides strong roadway and active transportation connections. Revitalization efforts in the area included the reduction of vehicle lanes from four road lanes down to two road lanes and the lowering of the speed limit. There are streetcar connections to the site, with a dedicated median to assist with passenger pick up and drop offs. There is a layby for cars to drop off goods and services and park temporarily. Pedestrian safety is ensured with pedestrian and cycle crossings at intersections, a separated bike trail (in the Martin Goodman Trail), and a waterfront promenade. These revitalization efforts helped minimize the presence of vehicles and lanes in order to create a multi-modal transportation path along the waterfront for all its users and visitors in the city.



Image 67: A beach at Queens Quay.



Image 68: Sectional rendering of Queens Quay featuring a promenade, the Martin Goodman Trail, a streetcar corridor, and dedicated lanes for vehicle traffic (Waterfront Toronto, 2020).

Despite being a very urban example of multimodal transportation along a waterfront, Queens Quay can provide important lessons on creating a pedestrian friendly layout. Queens Quay was able to successfully reduce the vehicle focus that the area once possessed, minimizing high speed traffic of vehicles and allowing people to enjoy the waterfront, a lesson that can be applied to the SGEC Parkway moving forward.

Queens Quay does an excellent job of creating waterfront access, with features such as two wave decks, which help recreational users, especially those in kayaks and canoes, have direct access to

the water. This access to the water is critical for the Flats character area, where there is a need for more slips and docks for water-recreational users. For year-round programming, amenities such as washrooms, food kiosks, event space and pavilions are provided in this stretch of land as well. The nuanced design of its waterfront is also attractive to visitors. These types of amenities are lacking in the SGEC Parkway and are critically important for

creating an activated waterfront.

Lake Wilcox Park

Lake Wilcox Park, located in Richmond Hill, Ontario, features recreational areas, built facilities and is accessible to all users. The park is well connected to its waterfront, even as the waterfront is shared with both public and private spaces. The design of the area takes many forms, using a variety of materials such as permeable pavers on the promenades and wood plank for a boardwalk (Richmond Hill, 2019). The Park also features a variety of public art, which is used to commemorate the rich and diverse history of the area.

There is a strong focus on quality landscape design in the park. Dillon Consulting, the designers of Lake Wilcox Park, have won numerous awards for the design of this park, which uses landscape design features to showcase the full potential of the waterfront (Dillon Consulting, 2020). Parkways and their surrounding parklands require a strong focus on landscaping.

In addition to achieving strong landscape design, the designers were able to successfully balance environmental protection and recreational activities.

The Park has a variety of recreational features including a splash pad, a multi-sports court, a skate park, and a canoe club. All of these activities are limited to only 5 hectares of land, while still providing ample open space for picnics and passive contemplation. In addition to featuring a promenade, the park also features a unique, crescent shaped boardwalk that stretches into Lake Wilcox. This promenade allows for a unique, passive appreciation node for the Lake. A similar feature in the Flats would allow visitors to appreciate Ottawa's heritage river in a new way. Constructed out of wood, the boardwalk evokes the lush environment and naturalized shoreline around it. The ambition of building a boardwalk within the lakebed and planting an abundance of native species is a strategy worth considering as well.

Lake Wilcox commemorates First Nations Peoples, the natural environment, and the habitat it sits on with ornamental design in various rest nodes and with different types of material and construction. The Flats are an excellent place to locate commemorative art, which evokes the historical peoples of the land, in a manner similar to Lake Wilcox Park. The SGEC corridor's shoreline could also benefit from an enhanced lower waterfront path, similar to Lake Wilcox, where there is an accessible promenade adjacent to a lush naturalized shore.

Whether the SGEC considers permeable paving, asphalt or boardwalk paths along its waterfront, the design, layout and width of the path will determine its use in its future. There are also lessons for the Flats character area in the number and variety of active and passive nodes in Lake Wilcox Park. A key takeaway for the SGEC Parkway is that it is possible to achieve more activity in a concentrated area while still balancing concerns for environmental preservation and natural species protection.



Image 69: Lake Wilcox Park, with a waterfront path allowing views of the lake (Dillon Consulting, 2020).

5.4 Excellent Precedents: Greens Character Area

The Greens character area is very natural, as the SGEC Parkway in this area intersects with the Greenbelt and contains Green's Creek, which is surrounded by lush, dense forest. The character area is home to many sensitive habitats and species at risk (refer to section 1.3 and section 3.3). The Greens also contains one pathway along the Ottawa River, which offers waterfront views. Owing to the abundance of natural areas in the Greens, the best precedents for this character area will demonstrate how natural areas can best be preserved and enjoyed. The best precedents for this character area will also focus on year-round park use. The precedents to be highlighted in this section are Boston's Emerald Necklace and Gatineau Park.

Boston's Emerald Necklace

The Emerald Necklace in Boston, Massachusetts is a 445 hectare network of parks and waterways, including a transition of urban to rural park features. The Necklace features elaborate landscape design that took over 20 years to build, including a focus on three aspects of the park system: water, vegetation and landforms. It is the best-preserved example of Frederick Law Olmsted's famed linear parks and one of his finest works.

Similar to the SGEC Parkway corridor, the Emerald Necklace includes an urban to suburban to rural transition. The Necklace includes a variety of nodes in its urban and rural parks including golf, resting areas, an arboretum, and a zoo. The Necklace's connection through Boston and other Massachusetts towns allows residents of urban areas to connect with nature. Following Olmsted's vision for the Necklace, the park is primarily focused on nature preservation, with recreational activities being relatively low impact.

Due to major flooding events from 1996 to 2001, The Necklace underwent significant restoration (Muddy River Restoration Project, 2020). As part of these restoration efforts, Riverdale Parkway was improved with a new multiuse path and waterways throughout the park system were restored.

Additionally, Charles Gate was dredged as a flood mitigation method. The redesign and restoration heavily drew on Olmsted's focus on stewardship, with new native trees and flora planted in Allerton Overlook and Babbling Brook. Further flood mitigation methods included the restoration of the Back Bay Fens, which was funded through a public-private partnership. Additionally, this partnership resulted in the planting of new flora to prevent shoreline erosion.



Image 70: The Emerald Necklace in Boston (Bang et al., 2014).

The Necklace also contains a pollinator garden, which was added in Olmsted Park to increase species diversity and provide new habitats for butterflies and birds. The garden took what was previously unused mowed recreational space and transformed it into new habitat for native species.

Olmsted Park and Ward's Pond have also seen efforts to remove invasive species in open spaces and woodlands. At Olmsted Park, invasive species removal is being carried out through goat scaping, where goats graze on invasive species (queeneyes, 2019). Franklin Park has faced an invasive insect threat to its tree population, bringing a call to plant additional plants in the forest floor and planting of Black Pine to create a new evergreen forest.

The restoration efforts in the Emerald Necklace provide a few lessons for the SGEC Parkway and the Greens character area. The Emerald Neck lace demonstratesthe importance of prioritizing nature preservation and environmental protection. It also provides interesting strategies for invasive species removal and flood mitigation. Furthermore, it provides an excellent example of an urban-suburban-rural transition, with a variety of activities that are low-impact, preserving Olmsted's vision of the space as a natural escape.

Together, this provides an excellent precedent for the Greens character area. As the Greens section of the SGEC corridor is located in the Greenbelt and features a great deal of valuable natural features, it is important to preserve and enhance the natural habitat in this area.

Gatineau Park

Gatineau Park is a 36,000 hectare park that stretches over four municipalities in Quebec, three of which are considered rural. Like the SGEC Parkway corridor and specifically the Greens character area, Gatineau Park contains a large amount of conservation land and many natural, historical, and cultural resources of significance, including areas of high archaeological potential.

In fact, Gatineau Park has a memorandum of understanding with the Kitigan Zibi Anishinabeg First Nation and the Algonquins of the Pikwakanagan First Nation regarding archeological resources (National Capital Commission, 2020b). Additionally, the site features museums, artifact exhibits, and souvenir shops that reflect the deep history of the site and provide opportunities for visitors to learn more about the park.



Image 71: Snow biking in Gatineau Park (NCC, n.d.-b).



Image 72: Scenic view of the Ottawa River from Gatineau Park in Quebec (NCC, 2020b)

Gatineau Park is known for its rich natural environment and serves as an excellent example of balancing environmental protection and promotion with low impact recreational uses. The site features a variety of year-round activities, all of which are complementary with the natural features of the site.

There are active uses such as hiking, mountain biking, winter biking, cross-country skiing, snowshoeing, boating, kayaking and canoeing, fishing, dog walking, in-line skating, and equestrian trails available in the park (NCC, n.d.-a). These activities allow visitors to partake in physical activity while enjoying the natural scenery around them. Other recreational activities on the site include sports fields and outdoor event spaces.

Even with a great deal of recreational activities on the site, the park has also protected significant environmental areas. The site features a wildlife conservation area and has protection for over 5000 species of plants and wildlife. The lush natural surroundings and rich heritage work in harmony with the activity nodes to create a space that attracts visitors from the National Capital Region and from all over Canada.

Gatineau Park provides an excellent precedent of a natural park that strikes a balance with recreational activities. The park's variety of year-round activities provide strong takeaways for instituting more winter activities in the Greens and throughout the SGEC corridor. The SGEC Parkway corridor should strive to similarly service and cater a variety of year-round recreational uses while utilizing the natural assets on the site.

Like Gatineau Park, the SGEC Parkway corridor should also strive to incorporate more passive nodes and rest stops, such as snack bars, artifact exhibits and more public space to commemorate the rich history of the shoreline and site as a whole.

Implications of Precedents for SGEC Corridor Design

The precedents yield a number of important implications for the design and plan of the SGEC Parkway corridor. Each precedent examined provides different lessons for the three-character areas thoughout the corridor. Since all precedents and criteria for their examination are explored in Appendix D, the following are just a few lessons found from examples described in this chapter.

All character areas of the SGEC corridor must consider the design of pathways. Vancouver's promenades have exceptional multimodal, well-connected pathways. The design of pathways includes a consideration of their positioning relative to local roads in order to prevent noise pollution. The width and material used for promenades and pathways are important for the functional use of its users. Pathways should include street furnishings and street lighting and provide users with ample space to create enjoyable and comfortable spaces.

Promenades and pathways in Vancouver are designed for multi-modal recreational use including dedicated space for cyclists. The design of the SGEC Parkway corridor will need to apply lessons from these precedents regarding the design of pathways for both recreational and commuter cyclists. Design ideas for creating accessible pathways near the water's edge can also be drawn from these precedents.

The precedents for the Cliff character area highlight the need to emphasize gateway features and the federal nature of the Parkway. The George Washington Parkway shows that scenic views are possible for pedestrians, cyclists and vehicle drivers alike, with views of prominent institutions reminding users that they are in a capital region. As a parkway located in a capital region, the SGEC Parkway has similar characteristics, with a lot of potential to replicate these elements in a uniquely Canadian way. The SGEC corridor features immense history and is similarly located to important federal nodes. These precedents can help provide lessons on how to enhance scenic views along the SGEC corridor and help maintain the sense of Canadian pride that the Capital imbibes.

Queens Quay and Lake Wilcox Park are linear parks that showcase a variety of programming and activity nodes in a small amount of land. Some of the features in these precedents are possible in the Flats character area. Although a very urban example, Queens Quay can provide some key lessons on creating a waterfront destination, including the importance of creating destinations that are accessible via public transit. Tourists all over the world flock to this award-winning destination because of its great waterfront activation, year-round programming,



Image 73: Graphic depicting best practices for a multiuse pathway such as lighting, wayfinding signage, seating, nature, and scenic views (NCC, 2020a).

and variety of amenities.

Lake Wilcox features a unique boardwalk built right over its lake with commemorative public art displays, all within five hectares of land. While this scale of development is not advised for the SGEC corridor, the lessons and designs of the precedents, particularly the recreation and waterfront activation features, could be implemented to make the SGEC a true destination.

The Emerald Necklace and Gatineau Park are examples of how the SGEC corridor must continue to preserve and protect its natural environment while exploring all-season recreational activity. The Emerald Necklace has enhanced much of its flora and fauna over the years, while the vast majority of Gatineau Park is conservation area. Both of these precedents do an excellent job of balancing recreational activities with conservation efforts, as is necessary for the SGEC corridor. Both precedents have excellent programming year-round to encourage park use in all seasons.

It would be beneficial to leverage the flat topography of the Greens character area to create waterfront access as well as infrastructure for winter activities, such as snowshoeing and skiing.

All of the precedents, including those described in the appendix, present a series of ideas that can be implemented in the SGEC Parkway corridor. The breadth of examples demonstrate that the SGEC Parkway corridor has a great deal of potential to become a world-class parkway and linear park. The SGEC corridor can include beautiful public spaces with active, connected nodes and a well-programmed waterfront that is unified around the vision of a nationally significant place for Canada's Capital.

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6.0 Vision and Planning Approach

6.1 Stakeholder Engagement Summary

To understand the site's existing conditions, the team held a stakeholder interview session on September 14, 2020. The interviews, held by videoconference, included stakeholders from the National Capital Commission (NCC), the City of Ottawa, the Rideau Valley Conservation Authority (RVCA), and the Société franco-ontarienne du patrimoine et de l'histoire d'Orléans (SFOPHO). Stakeholder interviews were divided into ten categories by the NCC, all of which centered on important considerations for the Parkway. The nature of the interviews was fact-finding and informational rather than participatory, with stakeholders answering questions asked by project team members. The information gathered from the interviews formed a key part of the SWOC analysis that was carried out by the project team. It also framed the team's insight into the background and existing conditions of the Parkway. A more detailed summary of the interviews can be found in Appendix E.

The next opportunity for stakeholder engagement was a planning workshop which the project team held over videoconference on October 23, 2020. The workshop included stakeholders from the NCC, the City of Ottawa, the RVCA, and the SFOPHO. Additionally, the team invited Professor Elizabeth Macdonald from UC Berkeley to provide consultation on designs. The stakeholders were divided into four thematic groups chosen by the team to provide design ideas for the Parkway corridor.

The sessions were participatory with stakeholders and team members working together on design proposals for their theme. All stakeholders were given a 30-minute presentation on the existing conditions of the site and relevant precedents before having a one hour session in their thematic group. The project team then used the information gathered from the planning workshop to determine their vision for the site and the related goals, objectives, and design strategies that would guide the re-envisioning of the Parkway. A more detailed summary of the planning workshop can be found in Appendix F. The information gathered from both the interviews and the workshop, combined with the research into the relevant policies, existing conditions, and precedents were all considered during the team's visioning session on November 5, 2020.

6.2 Vision

After hearing from the NCC and other stakeholders in the initial interviews and working with NCC stakeholders during the planning workshop, a visioning workshop was conducted to determine the overarching vision that would guide the next phase of this report. The workshop synthesized the findings from the existing conditions research, interviews, and the planning workshop, into a vision statement that guided the subsequent formation of goals, objectives, and designs for the site. Owing to the COVID-19 pandemic, the team conducted the visioning workshop remotely, using videoconferencing software. Other software was used to support the team's visioning including Mural, Google Maps, and Microsoft Office.

The following vision acts as a summary of the project team's aspirations for the SGEC Parkway corridor and shapes the goals and policies that form the foundation of this plan.

"A distinctive riverfront parkway that celebrates the environmental and cultural heritage of the Ottawa River and is sustainably designed for users of all ages and interests."

6.3 Planning Approach

The planning and design of the SGEC Parkway corridor was influenced by research into the existing conditions of the Parkway, precedent research, and client and stakeholder engagement through interviews and a planning workshop. As described in Section 1.3, the project team has identified three distinct character areas in the SGEC Parkway corridor: the Cliff, the Flats, and the Greens. There is an urban to suburban to rural gradient moving east along the Parkway, anchored by Rideau Hall to the west and the Greenbelt to the east. There is also a rough topographical gradient, with the Parkway shifting from steep cliffs, to gentler slopes, to being nearly flat as it moves eastward.

Collectively, the transitionary nature of nearby development and topography combine to create three distinct experiences throughout the corridor, with each presenting unique strengths, challenges, and opportunities. In designing a plan for the Parkway, the team strived to create a unified vision for the entire corridor, while still being attentive to the different experiences that are present in each character area.

The team conceptualized the Parkway through six planning principles, which were developed by shortlisting recurring topics heard through the stakeholder engagement process and in the project directives first presented to the team. These six principles guided the creation of five themes: Roadway, Gateways, Pathways, Waterfront, and Nodes. These themes were used to frame the goals and objectives as well as corridor guidelines for the Parkway. To ensure that the different experiences of the Parkway were preserved, the team split into smaller groups to conduct workshops for each of the individual character areas. In these smaller working groups, each character area team brainstormed design ideas for their area through the lens of the five themes and identified a key node to develop a feature demonstration plan for that would showcase the opportunities on the site. These were the Rockcliffe Lookout, Blair Boat Launch, and Shefford Point. Together, with an overall plan for the site, three small demonstration plans were created as a product of our overall vision, planning principles, and objectives. Additional site features not covered within the site plans can be found in Appendix H.



6.4 Planning Principles

The team identified six planning principles that formed the base for the information and stakeholder input collected. This section will provide a brief overview of each principle and how they have influenced the goals, objectives, and designs proposed by the team.



Environment

Coming out of the existing conditions research and stakeholder engagement, it was clear that environmental protection and preservation was the primary planning principle for future designs of the SGEC Parkway corridor. The corridor is composed of many key natural features such as Green's Creek, Airbase Woods, and Rockcliffe Park that are a source of pride for Ottawans. Fragile ecosystems such as Lower Duck Island must be protected from any future development and excessive human use. Environmental protection and preservation must supersede

recreational enhancements, and all new features on the site will minimize the amount of plant and animal habitats removed. Additionally, any new features proposed on the site will result in a net zero loss in the number of trees across the corridor.

Heritage

The SGEC Parkway corridor, in particular the Cliff character area, contains a variety of built and natural heritage features that must be protected. One of the key heritage features of the site is the Ottawa River itself, and any design proposals for



Image 74: The Stanley Park Seawall allows for cycling and pedestrian connection around the park. The path runs entirely along the waterfront, offering picturesque views (Kheraj, 2017).

the corridor should consider ways in which to enhance the appreciation of this asset. The Ottawa River and its banks have been an important gathering place for Indigenous Peoples. The river carries a shared history and story, spanning some 8000 years of human use and occupation of its shores. It has also played a significant role in the economic, political, and cultural development of modern Canada. In July 2016, the Ottawa River was designated as a Canadian Heritage River for its outstanding cultural heritage values. This riverfront park (like other NCC shorelines) will strengthen the meaning of this ancient shoreline in terms of our natural heritage and identity.

Additionally, designated heritage features such as Rideau Hall, a symbol of Canadian identity, and Rockcliffe Pavilion should continue to be protected and enhanced. Other non-designated features such as the Rockcliffe Rockeries should be viewed as critically important areas to enhance, with the potential to educate users about Ottawa history. Indigenous Peoples and the Franco-Ontarian community should also be recognized and commemorated for their contribution to the history of the Parkway area. The Canada Aviation and Space Museum and the RCMP Stables also contribute to the built heritage of the SGEC corridor, serving as a reminder of the military and aviation heritage of the area.

Recreation

The existing conditions research, the stakeholder interviews, and the planning workshop confirmed the importance of recreational uses on the site. Stakeholders pointed out the excellent recreation already on the site, indicating locations and types of new recreation that would benefit the corridor. Recreation will be a key component of the designs proposed for the overall Parkway and for each character area. Recreational nodes should be enhanced or added in all character areas, with attention paid to ensuring an adequate balance between passive and active recreation types. The specific balance desired will be contextually determined, as areas with larger existing open greenspaces are more receptive for moderate intensification than are nodes located near surounding neighbourhoods. Generally, low-intensity recreation will be prioritized across the corridor, with strategically located opportunities for more active waterfront and greenspace recreation.

In keeping with the commitment to the environment planning principle, the team must critically uphold environmental protection in all considerations and ensure that any new recreational node has minimal hardscaping, which serves to both minimize environmental impact and improve the flexibility of recreational uses in that area. Additionally, the team should ensure that the recreational uses added to current nodes are complementary to their existing functional uses, where they successfully serve their intended purpose. Any recreational improvements should also be designed in a manner that exemplifies the spirit of each character area and is reflective of a cohesive vision for the whole Parkway.

Connectivity

The preliminary research and the stakeholder engagement process revealed connectivity to be a major planning principle for the site, with the pathways and the roadway emerging as major themes. Good connectivity is vital to the site as it allows visitors to access the Parkway corridor from surrounding areas and allows users to connect to nodes and places of interest. Any new features proposed for the corridor will be supplemented by ample consideration to enhancing connectivity. New features should also be designed with active transportation users in mind, increasing connectivity for cyclists and pedestrians throughout the site. Subject to environmental limitations, proposals will strive to improve connection to and around the Parkway. The pathways and the roadway connections will be used to unify the three distinct character areas of the SGEC Parkway.



Image 75: Example of a pathway at the Bronx River Parkway that is accessible and safe for users of all ages (New York-New Jersey Trail Conference., 2020).

Safety

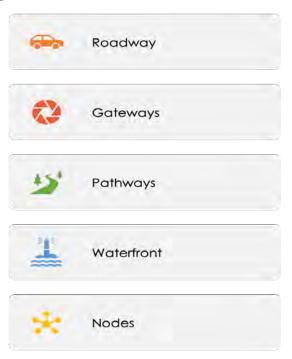
One of the key challenges identified during the stakeholder interviews and preliminary research was safety on the pathways, roads, nodes, and shoreline of the Parkway. The team will pay careful attention to improving safety on the roadways and the bike paths, looking to increase the number of signalized crossings on the roadway and separate speeding commuter cyclists from more slow-moving, leisurely cycling. Furthermore, the team will assess lighting fixtures along major nodes and promenades, with an eye to allow for safer nighttime use through improved visibility. Additionally, the team will look at mitigating the safety issues posed by unprotected slopes into the water in some areas of the Parkway corridor shoreline.

Accessibility

Throughout the stakeholder engagement process, accessibility was emphasized as a critical point to consider in any future design proposals for the SGEC corridor. This was confirmed in our research into existing conditions, which affirmed that accessibility is a significant challenge on the site. An accessible parkway corridor would allow for users of all abilities and ages to enjoy it, while ensuring complete connectivity throughout the site. The work being conducted by the NCC to create a universally accessible node at the National Capital River Pavilion will inform design proposals in each character area, with the team aiming to expand universal accessibility across the entire corridor. Enhanced wayfinding will also be a critical component of the designs for the Parkway and for each character area.

6.5 Planning Themes

This section will provide a concise summary of key opportunities, challenges and design implications that the team identified through stakeholder consultation and research of existing conditions (Chapter 3). The information is organized into five distinct yet related themes, which frame the goals and objectives proposed in Chapter 7.





Opportunities

The SGEC Parkway provides a transportation connection between the urban, downtown core and the eastern neighbourhood of Orléans. It traverses important features of Ottawa, both geographically and in terms of destinations, serving as a ceremonial route for dignitaries seeking to enter the City from the east and providing a scenic access to downtown. The Parkway also crosses notable ecological features, predominantly the Greenbelt, and follows the Ottawa River along its south shore, providing a natural, scenic drive in the heart of the City of Ottawa.

The Parkway is also well-equipped to meet parking demands, with parking lots located at many points along the Parkway, however, winter maintenance is currently a concern. These parking lots are often located at, or near, existing destinations along the roadway, providing vehicular access to users.

Challenges

While vehicular access along the SGEC Parkway and its many destinations is adequate, public transit and active transportation links are in need of improvement. The roadway itself lacks local street and transit connections and discontinuous cyclist routes throughout the site pose accessibility and safety concerns.

Safety is an added concern for active transportation users and motorists on the roadway as the SGEC Parkway is heavily used as a commuter road and often has high-speed vehicles. This has created a desire for the NCC to lower posted speed limits along the Parkway and introduce traffic calming measures. A rise in urbanization near and beyond the Parkway has increased overall roadway use and the potential for congestion along the SGEC Parkway. As such, there is increasing external pressure to widen the roadway, which is not an advisable or desirable option for the sustainability of the Parkway. Thus, there is a need to try to reduce commuter peak travel times and create a more consistent flow of traffic throughout the day, thereby alleviating congestion and creating a more scenic and pedestrian-friendly parkway.

Implications

New proposed designs of the SGEC Parkway will prioritize active transportation connectivity and safety along the corridor. Complete street design features, such as native street trees and commuter bike lanes, as well as traffic calming measures, such as narrowing travel lanes and installing signalized pedestrian crossings, will reimagine the roadway as a safe and accessible parkway that is pedestrian-friendly, while still maintaining the SGEC Parkway as an important scenic transportation corridor within the Capital. Small road realignments throughout the Parkway will open up space for recreational uses and contribute to increased safety along the corridor. Design of the Parkway should strive to minimize the impact of the roadway on surrounding natural areas. The NCC's position is to not make the Parkway into a transitway, but there is an opportunity to introduce public transit access to certain destinations along the corridor.



Image 76: Example of a bidirectional bike lane separated from the road by a median (Riddell, 2013).



Opportunities

The SGEC Parkway encompasses many existing tourist destinations, including historically and nationally significant sites. In addition to the federal landmarks, there are also many other landmarks within the corridor that draw local and international visitors alike, such as the Rockcliffe Lookout, the Blair Boat Launch, and the natural beauty of the Greenbelt. The corridor has a rich cultural heritage that is reflective of many Canadian identities, such as the notable Indigenous travel routes and early French-Canadian colonies along the Ottawa River, adding to the potential for interpretation and educational signage, as well as recreational opportunities within the site.

Challenges

The SGEC Parkway currently ends abruptly at both the western and eastern gateways, and there is almost no sense of being in a nationally significant area. This ambiguous sense of place, especially for pedestrians, is accentuated with a lack of wayfinding features along the site. As such, users lack a unique experience when interacting with the SGEC Parkway corridor.

Implications

Distinct gateway features at the main entrances of the Parkway, and visibility of key destinations through structural and landscape features should help users feel comfortable and welcome within the space. Examples of gateway features include destination-themed public art installations and community commemoration plaques. Wayfinding signage should also be used throughout the site to ensure that individuals are aware of their surroundings and the destinations they could explore. Gateway features should provide users with an increased sense of belonging, allowing them to create new experiences and memories within Canada's Capital.



Image 78: 3D wayfinding map on Confederation Boulevard, Ottawa (Waymarking, n.d.).



Image 77: Public art along the Ottawa River (NCC, 2018).

PATHWAYS 🍑

Opportunities

Pathways are a critical feature of the SGEC Parkway corridor, providing both leisurely and purposive navigation through the site and linking together some of the site's nodes. One of the critical strengths of the pathway system is its relative continuity throughout the site. However, with minor changes, there is an opportunity to improve this continuity of pathways throughout the SGEC corridor.

Additionally, the Lower Pathway runs along the water, allowing visitors views and some access to the Ottawa River, all of which can be improved. The pathways also have the potential to play host to winter activities, such as cross-country skiing, ensuring all-season usage of the SGEC Parkway corridor.

Challenges

There are a number of challenges with pathways on the site that must be resolved. First, the Lower Pathway often floods through much of the site, usually for about two to three weeks every year. This is particularly pronounced in the Flats and the Greens character areas, where the Lower Pathway is located almost entirely in the floodplain. As a result, the flooded segments of the pathway must be closed to the public for certain periods of time, and additional costs must be allocated to repair the consequential erosion of the flooded pathways.

Furthermore, the pathways on the site are narrow in some places, making it difficult for multiple users to walk together comfortably. Stakeholders also identified that there was a lack of seating areas and bathrooms along the paths, which is a challenge for accessibility on the site.



Image 79: Separated bike path and pedestrian path at Coal Habour in Vancouver (Macdonald, 2018).

In addition, one of the primary challenges along much of Upper Pathway is the inability to control the speeds of commuter cyclists, which can interfere with more casual, leisurely pathway users. This coincides with the reality of the Parkway's increasing use as a commuter route, which needs to be balanced with the intended recreational and leisurely use of the site.

Implications

Waterfront nodes should be connected by pathways and new ways to enjoy the water should be explored. The Lower Pathway will also be realigned to allow for a vegetated buffer where possible. This buffer will help mitigate flooding in some areas of the pathway, while providing a visually interesting element for pathway users.

Furthermore, winter uses on the pathways can be enhanced by strategically locating new warming huts along with adequate winter maintenance of pathways to encourage snowshoeing and cross-country skiing. There is also an opportunity to extend nighttime use on the pathways and enhance safety by adding lighting that is compliant with the Capital Illumination Plan (2017). These would be located at points of decision-making, crosswalks, and other locations where pedestrians interact with the roadway and other hazards. The pathways can also play a role in educating users of the native and invasive species on the site through the use of informative signs along the way, while also connecting users to areas containing commemorative public art and community plaques.

WATERFRONT &

Opportunities

The SGEC Parkway boasts continuous waterfront access along the Ottawa River. This is a substantial feature across the corridor and offvers numerous opportunities to showcase the environmental, heritage, and recreational significance of the river to the City of Ottawa and various Canadian identities. The strong natural heritage system and ecological significance also connects to Green's Creek, a tributary of the Ottawa River, located in the eastern part of the SGEC corridor.

Existing recreational opportunities on the waterfront, including the recently installed Blair Boat Launch as well as the National Capital River Pavilion which is under renovation, offer great present and potential all-season activation of the water.

Challenges

Direct public access to the water is currently limited. Although users may walk along the Lower Pathway and enjoy views of the river, it is difficult to find safe and accessible points to enter or dip one's toes into the water. Furthermore, there are currently no waterfront nodes east of the Blair Boat Launch.

Despite the steep slope and unsafe conditions, desire lines can be found leading from the path to the water. Therefore, there is a need to provide additional access points and services related to water activities, such as ramps to launch canoes or kayaks into the water. Accessibility is further limited as there are no existing universal accessibility accommodations for the waterfront.



Image 80: Steps leading to the water at Promenade Samuel de Champlain (Québec plein air, 2020). Good for public seating as well as flood mitigation.

Isolated areas and lack of visibility, due to trees and overgrowth of invasive species, also increase safety concerns for pedestrians along the waterfront. Finally, there are many stretches along the SGEC corridor where views of the water are obscured from users on the upper pathway or those driving along the roadway.

Implications

Any design of the SGEC Parkway has many opportunities to showcase Ottawa as a waterfront capital. Accessibility and safety for users of the site can be improved by further animation of the waterfront through pathway features and enhanced or additional recreational nodes. Proposals will facilitate access to existing lookout points, while introducing new access points and activities along the waterfront. Importance will be given to encouraging more users in these areas to decrease isolated and unsafe zones. A balance must be found, however, between recreational opportunities and preserving the area's natural heritage. Future plans will seek to improve core natural areas and corridors and concentrate development in dedicated nodes. Mitigation of the environmental impacts of increased usage of the corridor also needs to be appropriately considered.

Furthermore, climate change causes more frequent flooding of the shoreline and erosion of the landscape; leading to an increasing need for shoreline erosion protection, stormwater management, and flood mitigation practices to be included in proposed designs for the corridor. This issue requires further dedicated study to determine innovative best practices complementary to the unique context of the SGEC Parkway.



Opportunities

The SGEC Parkway already contains a variety of passive and active nodes. Principal among these nodes are the Rockcliffe Lookout, Rockcliffe Park, the National Capital River Pavilion, the Canada Aviation and Space Museum, Blair Boat Launch, the Pollinator Garden, and the Ottawa River Lookout. Work currently underway in the Pollinator Garden provided a key precedent for adding new features to nodes throughout the site. In particular, new educational plaques on the vegetation in the Pollinator Garden, as well as plans to bring school groups to the Garden, informed the objective to educate users on the history and context of the SGEC Parkway in ways that allow for enhanced enjoyment and learning on the site while also maintaining the overarching character of each character area.

There are already excellent active nodes on the site, with a variety of different activities distributed through each character area. The SGEC offers visitors a place to launch boats, explore Ottawa's history, enjoy a meal, or take in views of the water. New and enhanced nodes will capitalize on the variety of activities on the site and seek to expand them where appropriate. Nodes will be flexible and adapatable to temporary and regular programmed as well as unprogrammed uses.

Challenges

In conducting the visioning workshops, the team identified a few weaknesses and challenges with respect to nodes that helped inform the node objectives for the SGEC Parkway. One of the key challenges that emerged throughout the stakeholder engagement process was the need for better connectivity between the nodes.



Image 81: Example of a waterfront picnic area with scenic view (Parks blog, 2019).

Nodes such as the Blair Boat Launch and the Canada Aviation and Space Museum were particularly identified as having connection issues. Another challenge that emerged was the lack of recreational opportunities in the Flats and Greens character areas. Stakeholders also identified the need for more passive nodes and rest stops along the Parkway that would create space for peaceful contemplation, allowing visitors to appreciate the natural beauty around them.

Implications

The team will seek to take advantage of relevant opportunities on the site, especially in the Ottawa River Lookout and near the Canada Aviation and Space Museum, to create passive nodes with a storytelling component that touches on Indigenous, Franco-Ontarian, and military history. The team will also look to enrich the Blair Boat Launch with new uses such as a restaurant and/or non-motorized boat launch. The team will also contemplate how to further enhance experiences of the Ottawa River through new and existing nodes. Since stakeholders identified the natural features of the parkway as one of its greatest strengths, the team will seek to propose new passive nodes and contemplate additional programming that harkens to the natural environment and native species on the parkway, particularly in the Greens character area.

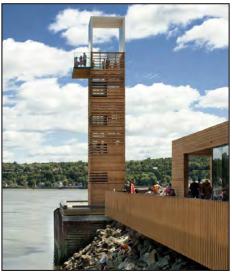


Image 82: Lookout tower and cafe along the waterfront at Promenade Samuel de Champlain (Contemporist, 2008).

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7.0 **GOALS AND OBJECTIVES**

This section outlines the key elements necessary to achieve the vision for the SGEC Parkway. Each goal is developed based on the planning themes described in Chapter 6, followed by a set of objectives required to achieve the goals.

GOAL 1: ROADWAY FEATURES



The NCC Parkway network was developed for the enjoyment of all users and should be maintained as distinct transportation corridors. Leisure and scenic vistas should be prioritized as the primary functions of the parkway while transportation should be a secondary consideration. As such, the Sir George-Étienne Cartier Parkway will prioritize active transportation and connect natural and recreational areas with a continuous safe and scenic roadway. Further, the Parkway shall encourage alternative mobility modes and be sensitive to universal accessibility needs.

Objectives

- 1. Promote cycling in the SGEC corridor by improving the existing cycling infrastructure for safety, continuity, and ease of use.
- Employ traffic calming measures and redesign interchanges to be more land efficient and safer for active transportation.
- Improve pedestrian crossings along the study area.
- Realign the parkway in specific locations to allow for the creation of increased recreational space and improved safety in the corridor.



Image 83: NOKIA Sunday Bikedays on Queen Elizabeth Drive, Ottawa (NCC, n.d.).

GOAL 2: GATEWAY FEATURES 💸



The Sir George-Étienne Cartier Parkway corridor shall be a destination, with specific features and characteristics that help define it as a Canadian landmark, while also being recognizable as part of Ottawa's renowned parkway system. The communities adjacent to the Parkway, and within the entirety of Canada's Capital, shall be welcomed and guided through the corridor with its unique sense of place. All users of the park space shall feel safe and comfortable in their use of the Parkway.

Objectives

- 1. Enhance key entrance and exit points of the SGEC corridor to improve the federal character of the area, create a sense of Canadian identity along the corridor.
- 2. Implement continuous wayfinding across the corridor.
- 3. Establish areas that symbolize and honour French and Indigenous heritages within the site.
- 4. Enhance design features to reflect the identity of local neighbourhoods.



Image 84: Interpretive signage at Pindigen Park, Ottawa (Ruhland & Associates Ltd, n.d.).

GOAL 3: PATHWAY FEATURES



Recreational and leisure uses should take precedence over traditional transportation uses. The Parkway shall take full advantage of its natural and cultural elements and prioritize active transportation in order to promote active, healthy lifestyles. Pathways throughout the corridor will be safe and accessible for all users. The SGEC corridor's pathways shall be connected with surrounding pathway networks.

Objectives

- 1. Ensure all-season use of the pathway system.
- Maintain and expand multi-use pathways for all users and all types of recreation, accommodating varying speeds and functions, including recreational and commuter cyclists.
- Utilize unique lighting displays along pathways to support greater nighttime use in the vicinity of nodes and at points of decision making or pedestrian interaction with the roadway and/or other hazards.
- 4. Increase connectivity of pathway networks within the Parkway and with surrounding community pathways.



Image 85: Permeable pavement on a Toronto waterfront walkway (DTAH, n.d.-b)



Image 86: Cross-country skiers on the SJAM winter trail (Ottawa Tourism, 2020)

GOAL 4: WATERFRONT FEATURES



The Parkway shall maintain its natural and conservation spaces and continue to focus on low-impact uses. Various initiatives, such as shoreline protection, conservation, and stormwater management are important considerations for protecting and enhancing surrounding fragile wetland biomes and the Ottawa River as a distinct and continuous ecosystem. Respect for existing environmental assets will be balanced with recreational activation of the waterfront and improved equitable access to the shoreline for Parkway users.

Objectives

- 1. Protect and enhance the Parkway and the Ottawa River as a natural corridor.
- 2. Provide new amenities that animate the waterfront and encourage accessible interaction with the water.
- Create additional opportunities for education on the environment and the dynamic Ottawa River.
- Enhance views of the waterfront through selective vegetation removal and the creation of passive viewing sites.

GOAL 5: NODE FEATURES 🔀

In line with the vision for the site, frequent use of the park space by a wide variety of users shall be promoted. Recreational nodes shall be enhanced to create recreational opportunities for all users. Some of these opportunities include cycling, walking, picnicking, water-related recreation, and the enjoyment of scenic views. Recreational nodes across the site should also offer cultural and environmental education opportunities, as well as pedestrian amenities and rest stations. The design encompasses how people interact with the Parkway and the memories they take away from it.

Objectives

- 1. Ensure all-season recreational uses throughout the corridor, facilitated through recreational nodes.
- 2. Design new vibrant public spaces that act as destinations that draw people to the site.
- 3. Ensure a balance of active and passive recreation opportunities.
- 4. Increase recreational amenities, including picnic areas, bike parking, and temporary commercial opportunities.



Image 87: Paddleboarder on the Ottawa River (Ottawa Tourism, 2019)



Image 88: The Rockcliffe Lookout, Ottawa (Karadeglija, 2009)



Image 89: Riverfront Lookout, Ottawa (DTAH, n.d.-a)

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8.0 CORRIDOR GUIDELINES



The SGEC roadway will be redesigned to enhance landscaping, reduce traffic speed, and further accommodate active transportation users

Image 90: Signalized pedestrian crossing along the Queen Elizabeth Driveway in Ottawa (Google, 2020).

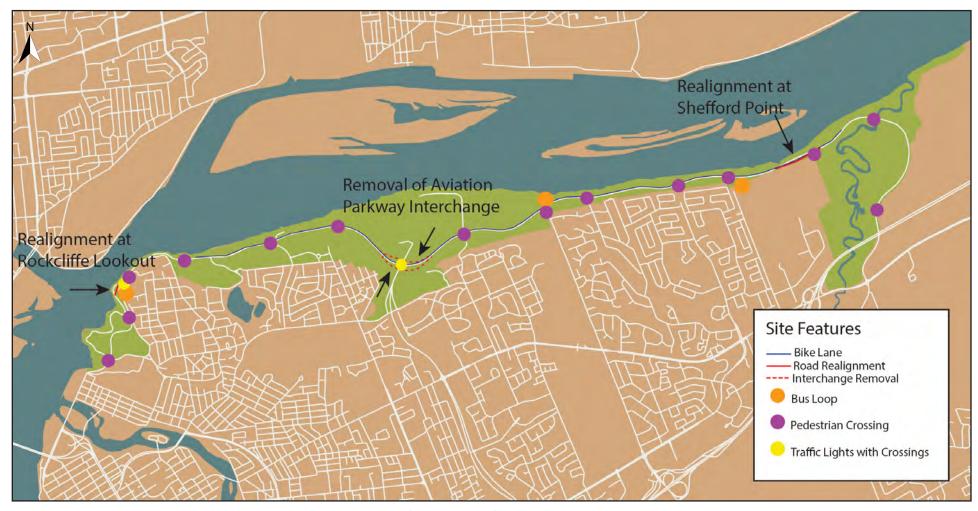
ROADWAY 矝

- Narrow roadway widths and implement traffic calming measures.
- Increase and enhance pedestrian and cyclist crossings at-grade to improve safety for all modes of active transportation.
- The SGEC roadway and associated commuter cyclist lanes, parking lots, public transit access points, etc. shall be maintained to a high standard year-round, including winter snow removal.

- Implement designated bike lanes for fast-moving cyclists in consideration of vehicle traffic volumes, speeds, street width, and topography. Cycling speed limits shall be posted to ensure safety.
 - Bike lanes shall be added either by narrowing existing travel lanes or widening the roadway right-of way, depending on location.
 - Bike lanes shall be separated from the road with a natural buffer, including street trees, where feasible and with an elevated curb and/or flex-posts where not feasible.



Image 91: Example of a two-lane roadway with separated bike lanes and street trees (Falbo, 2018).



Map 13: Map of all proposed site features related to the Roadway goal.

The SGEC roadway will be realigned at the Rockcliffe Lookout and the new Shefford Point in order to better utilize the greenspace in these areas, creating more recreational space in these nodes. In addition, the interchange and overpass at the intersection of the SGEC Parkway and Aviation Parkway will be removed and converted into a traffic stop with pedestrian crossings. The extra space created has the potential to be used for another national institution or SFOPHO's proposed park. A bike lane will be added alongside the roadway as well as signalized and tabletop crossings, in order to make the SGEC Parkway a safer and more multi-modal corridor.



To accentuate points of entry into the SGEC corridor, various strategically placed gateway features will be installed.

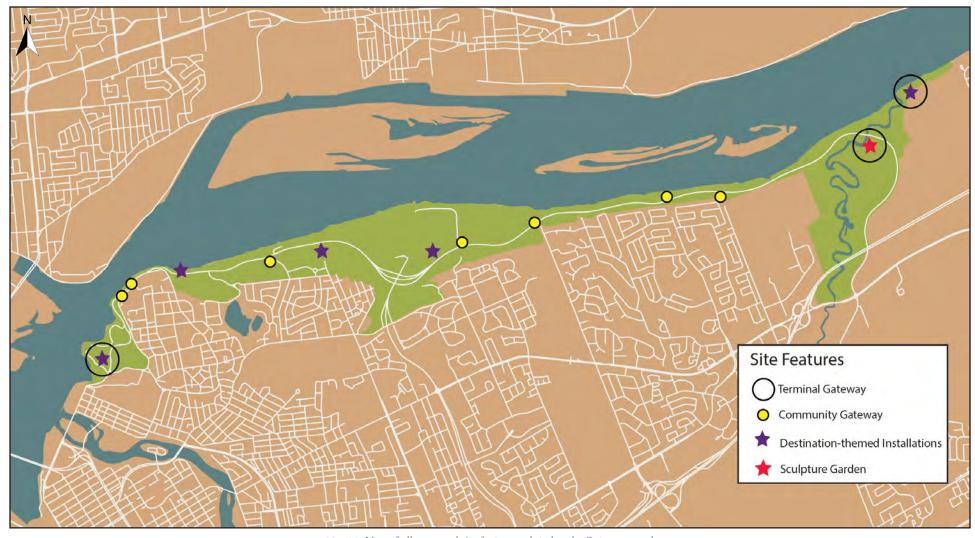
Image 92: Flower and sculpture gardens are examples of distinct gateway features in Prince Edward County.

GATEWAYS

- Gateways shall promote a sense of arrival and facilitate connectivity, orientation, and wayfinding to and within the site for both vehicles and pedestrians.
- Gateways shall be designed to express the distinct character of the corridor and signal entrance into a pedestrian-friendly area.
- Gateway features shall include enhanced landscaping, destination-themed public art, and educational signage to commemorate the corridor's cultural heritage, including Indigenous, French, and Canadian Capital narratives.
- Gateway features, including public art and interpretative signage, will showcase the Parkway as a year-round destination.



Image 93: Example of destination themed public art in Prince Edward County.



Map 14: Map of all proposed site features related to the Gateways goal.

The SGEC corridor has three main terminal gateways that can be accentuated through the installation of public art: the roundabout at the western terminal point of the corridor; the eastern terminal point of the Ottawa River Pathway; and the eastern point at which the Parkway and two NCC MUPs intersect. There is a potential to add large-scale structural elements, specifically ones that hint at the destinations that can be enjoyed throughout the site, or simply an enjoyable sculpture garden to mark a transition into the Parkway. Commemorative public art or educational plaques should also be installed at the identified community gateways. All these installations will provide a better sense of place and improve wayfinding along the Parkway.



Image 94: Mixed asphalt and permeable pavement pathway with seating along the Lower Don Pathway.

PATHWAYS 🏄

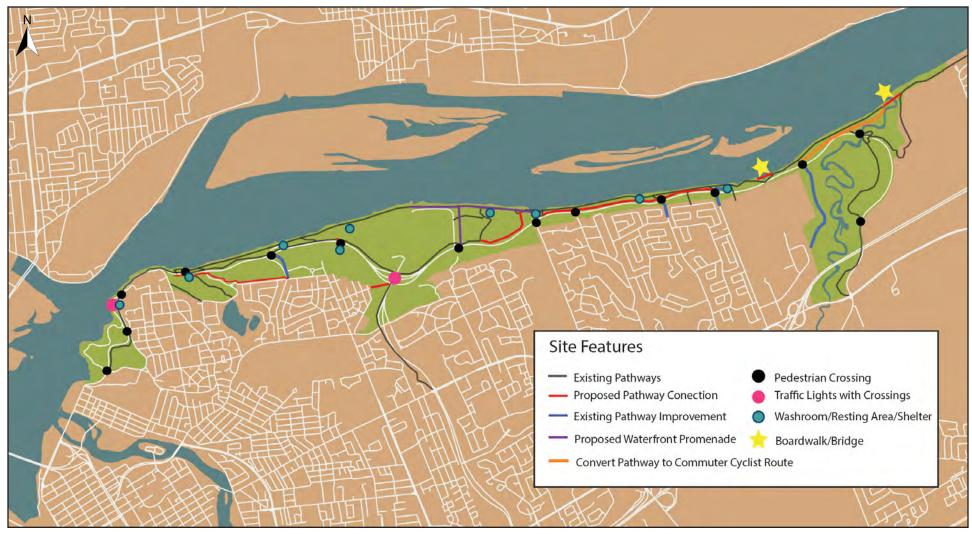
- Pathways will include streetscaping elements that promote pedestrian comfort and safety, and they will be designed to enhance accessibility for all residents through compliance with the Accessibility for Ontarians with Disabilities Act (AODA).
- Lighting of the pathways, nodes, crossings, and public spaces shall be functionally appropriate and properly scaled to increase security and comfort for users.
 - Priority for illumination will be given to conflict or decision points, such as crossings near destinations and roadway intersections, as well as pathways that lead to transit stations.

- Lighting shall be dark sky compliant where possible.
- Lampposts will have a fully hooded design and flat lens to restrict light downwards.
- Remote-controlled or motionactivated lighting may be used along pathways, at parking lots and at frequented destinations.
- Pathways shall support multiple uses and year-round activities such as: cycling, walking, cross-country skiing, and snow shoeing. The pathways shall be maintained accordingly.

The SGEC corridor's pathway network will create pedestrian-oriented places that are safe, accessible, connected, and easy to navigate for people of all abilities.

Design of the multi-use pathway network shall generally

- Be a minimum width of 3.0 metres, up to 5.0 metres depending on anticipated volume of users.
- Use permeable materials, where feasible, and be AODA compliant.
- Include wayfinding and interpretative signage throughout.
- Utilize distinctive pavement markings or materials to minimize the conflict between vehicles and pedestrians.
- Be continuous and connected to adjacent pathway networks.
- Minimize the height of curb cuts to facilitate wheelchair and stroller usage.
- At crossings, feature curb ramps with raised tactile surfaces or materials with contrasting sound properties to help pedestrians with visual impairments.



Map 15: Map of all proposed site features related to the Pathways goal.

New connections will be made between existing pathways to increase connectivity within the site. Pathways linking nearby communities to the site will also be improved. Improvements would primarily include widening of the narrow pathways and maintaining the pavement. A pedestrian promenade is proposed as a pilot project between the Rockcliffe Yacht Club and the Blair Boat Launch areas. Additionally, a floating boardwalk at the new Shefford Point node will be proposed to allow for an interesting, novel way of interacting with the water from the Ottawa River Pathway. A multi-use bridge will be built over Green's Creek to simplify the route for pedestrians and cyclists coming from the Orléans community east of the SGEC corridor. To ensure connectivity of the commuter cyclist route, the existing Upper Pathway east of the boardwalk will be converted into a commuter cyclist path; pedestrians and recreational cyclists will be directed to the Ottawa River Pathway (or Lower Pathway). Proposed pedestrian crossings are strategically located where pathway openings exist on the north and south sides of the Parkway, or where there are parking lots. These crossings would vary between signalized and yield crossings, depending on the pedestrian traffic volume and frequency.



Image 95: Canoeing on the Rideau Canal, Ottawa (Tourism Ottawa, n.d.).

WATERFRONT 🎎

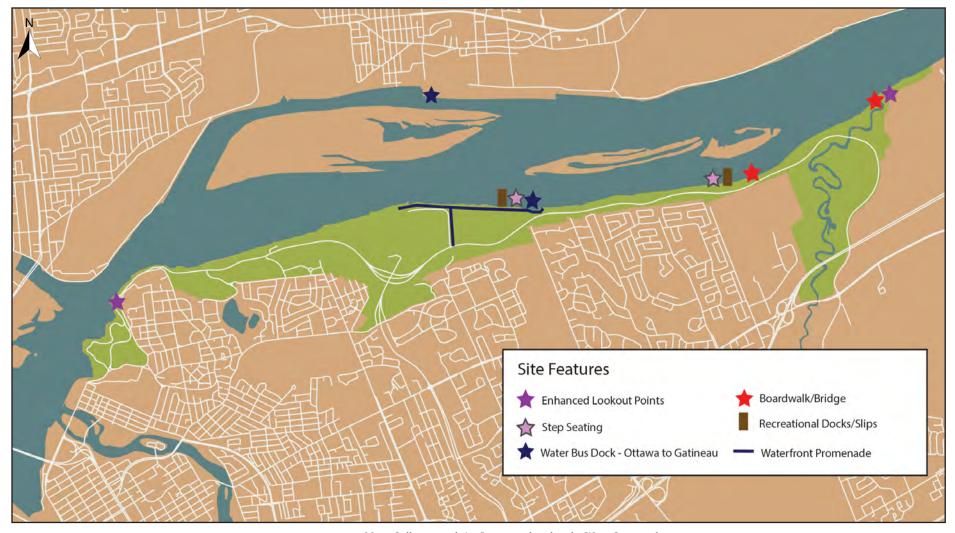
- Employ innovative erosion control and flood management technologies along the shoreline, with specific technologies to be determined by a supplementary waterfront management study.
- Animate the waterfront by increasing access to the water and waterfront recreational opportunities.
- Educate users of native and invasive species near the waterfront.

- Remove invasive tree, bush, and shrub species.
- Protect, maintain, and improve natural habitats for native flora and fauna.
- Enhance views of the Ottawa River through strategic tree trimming and selective tree removal that is offset with native tree planting elsewhere in the SGEC corridor.

Publicly owned and accessible waterfronts are increasingly seen as economic and social assets for their respective communities.



Image 96: An example of a small kayak launching dock at Thirty Island Lake near Frontenac Provincial Park.



Map 16: Map of all proposed site features related to the Waterfront goal.

Existing waterfront features, such as the Rockcliffe Lookout and the Ottawa River Lookout are to be enhanced. These enhancements could include parking and connectivity improvements. Two locations will have added features such as step seating, recreational docks, and slips to accommodate water activities. Additionally, a water promenade and a boardwalk will be proposed along the waterfront to promote engagement with the River. To increase connectivity between Gatineau and Ottawa, a water bus is being proposed that will provide interprovincial travel between the Blair Boat Launch and Kitchissippi Marina, connecting surrounding communities and employment nodes south of the Parkway, and leveraging existing public transit networks (see Map 22 in Section 9.2). Further detail regarding these enhancements can be found in Chapter 9, regarding the feature site plans for each character area.



Image 97: Users tobogganing in the St. Charles linear park (Amis des parcs, 2018).

Recreational nodes will promote active and passive use of the SGEC corridor year-round and help to create a unique sense of place, while promoting pedestrian use of the site.

Nodes 🔀

- Create concentrated hubs across the corridor, including:
 - Seasonal warming and cooling stations where appropriate.
 - Washrooms and water fountains where feasible.
 - Pedestrian amenities such as garbage/recycling bins and seating options.
 - Picnic areas, gardens, and open play fields for flexible enjoyment and recreational use.
 - All season equipment rentals and food service areas where appropriate.
- Bicycle parking to encourage active transportation.

- Slips, docks, and water access features to allow for water-based recreational uses at water access nodes.
- Increase wayfinding and define nodes through public art.
- Enhance programming on the site to allow for tours and other scheduled experiences, creating collaboration between nodes across the site and acting as a draw to the Parkway.
- Prioritize design solutions that incorporate the natural environment and showcase Capital landmarks.
- Prioritize climate resilient design by integrating measures to mitigate and adapt to climate change when designing and building amenities, facilities, etc., especially those along the shoreline.



Image 98: Cyclist filling a water bottle at a temporary cooling station during Nokia Bikedays in Ottawa (NCC, 2019).

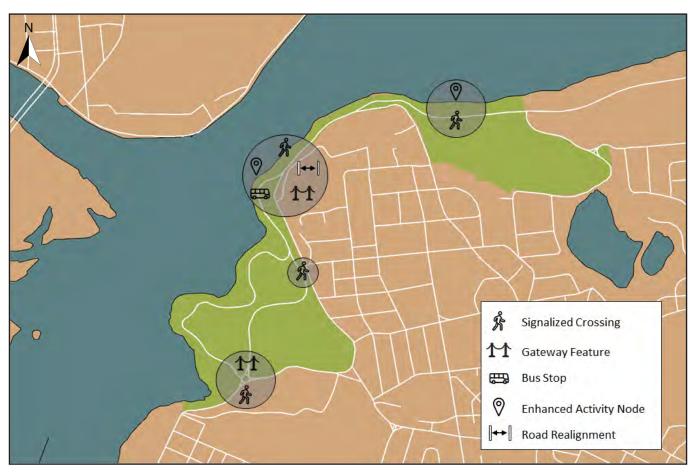


Map 17: Map of all proposed site features related to the Nodes goal.

A variety of new nodes will be created along the SGEC Parkway, offering visitors a multitude of experiences. These new nodes have been located strategically to take advantage of existing amenities. New nodes will allow for both active and passive uses and will include picnic areas, gardens, playgrounds, flexible sports fields, fire pits, a boardwalk, and a sculpture garden. Many of the existing nodes along the Parkway will also be enhanced, with increased activities, access, and amenities. A warming station competition has also been proposed, where warming stations along the Parkway corridor are designed by local artists and architects each year, with local users and tourists afforded the opportunity to visit these sites and vote on a winner. This will act as an annual draw to the site, encouraging visitors to experience the whole Parkway corridor and leaving them with fond memories. Additional information regarding the nodes on the site can be found in Chapter 9 and Appendix H.

8.1 Character Area Wide Maps

All of the proposed features that have been discussed thus far in this chapter were re-grouped to show all new features by character area. These maps were specifically made for the presentation as they were effective in showcasing how the different improvements by theme interact with each other in each character area, making it easier for presentation attendees to understand. In the Cliff character area, five different types of design features are proposed over four locations. In the Flats character area, seven different types of design features are proposed over 13 locations. In the Greens character area, six different types of design features are proposed over six locations. Each of the features within the maps were presented and these maps were used to highlight the location of every feature. All of the information conveyed in these maps can be found in Chapter 8, Chapter 9, and Appendix H.



Map 18: Map of Cliff character area showing all proposed features.



Signalized Crossing

Gateway Feature

Bus Stop

Enhanced Activity Node

Pedestrian Bridge

Re-naturalization

Map 19: Map of Flats character area showing all proposed features.

Map 20: Map of Greens character area showing all proposed features.

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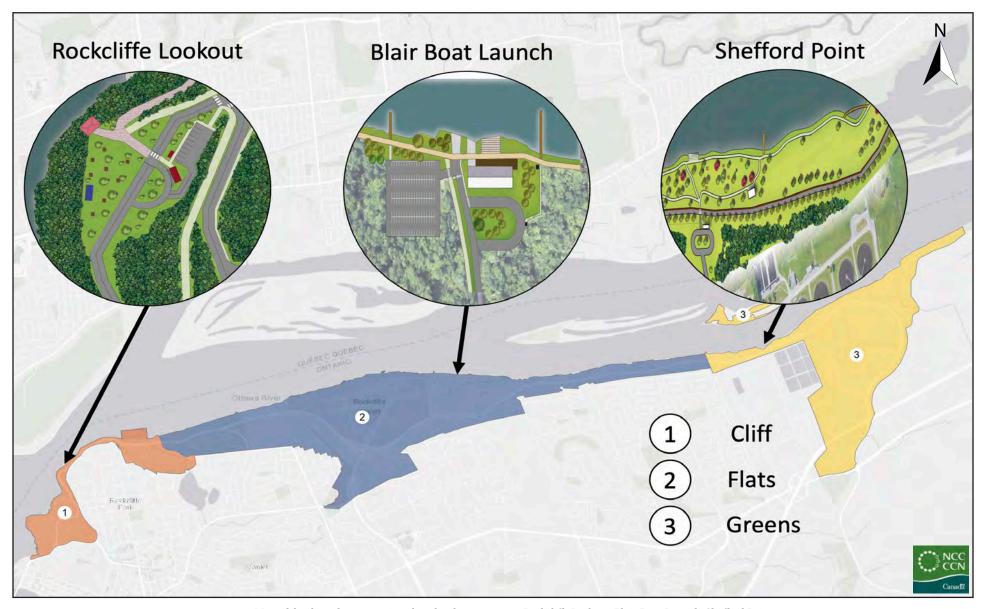
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9.0 FEATURE DEMONSTRATION PLANS



Map 21: Map of the three demonstration plans by character area: Rockcliffe Lookout, Blair Boat Launch, Shefford Point.

9.1 Cliff Feature Node: Rockcliffe Lookout

The feature site plan for the Cliff character area showcases proposed design changes to the Rockcliffe Lookout. The Lookout is an existing destination within the character area but is underutilised and does not comply with the planning principles for improvement of the SGEC corridor. Currently, the Rockcliffe Lookout consists of a cliff-top pavilion with interpretive boards overlooking the Ottawa River, a few pull-off parking spaces in the extended roadway shoulder, and an access driveway to the Rockcliffe Boathouse Restaurant and Marina. The existing site poses a safety risk to pedestrians and vehicles and has limited accessibility. These concerns must be addressed to ensure equitable access to and enjoyment of the Lookout. It does, however, have the potential to better accommodate active transportation users and feature improved open greenspace for a variety of passive recreational uses. With the design enhancements proposed in the feature site plan, the Rockcliffe Lookout will become a true feature node within the SGEC Parkway.

Importance

The Rockcliffe Lookout is a key destination and draw to the SGEC Parkway, marking the westernmost node within the corridor and serving as an important connection to the nationally significant destinations just outside the Parkway's western gate. The Lookout's close proximity to Rockcliffe Park, a beloved urban greenspace, contributes to the importance of active and passive recreation across the site. Furthermore, the Lookout's location best highlights a distinct sense of place within the SGEC corridor and contributes to the character area's designation as "the Cliff".

The existing Rockcliffe Lookout is an attraction for locals and tourists alike. Design proposals should strive to connect users of all abilities to the panoramic views of the River available at the site, while informing them about the River's role in shaping Ottawa as Canada's capital.

Design Ideas

The enhancement of the Rockcliffe Lookout is made possible by more efficiently using the land available south of the Lookout, currently intersected by the roadway. As such, the roadway will be realigned to the south of the corridor, to run more parallel with the existing Ottawa River Pathway. Roadway narrowing and increased curvature will serve as traffic calming measures for vehicles approaching the site. The roadway will also be altered to include a bus turn-around that will facilitate public transportation accessibility on the site. The accompanying bus shelter will be equipped to keep users protected and warm during inclement weather. A bike parking shelter will also be installed in close proximity to the bus shelter and connected to proposed pathway extensions.

The Rockcliffe Lookout parking facilities will be improved by creating a small dedicated parking lot, accessible via the turn-around, and separated from the existing pavilion with a new passive recreation greenspace. To ensure enhanced accessibility, the greenspace will feature seasonal pedestrian amenities such as picnic tables. It will also feature permanent features such as benches and an accessible washroom.



Image 99: A heated OC Transpo bus shelter (Gram, 2017).

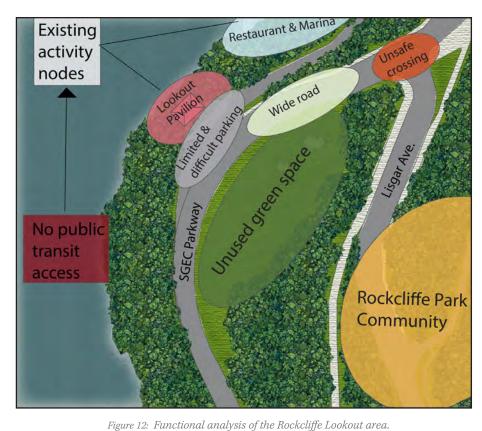




Figure 13: Demonstration plan of the proposed Rockcliffe Lookout area. The pink rectangle represents the existing Rockcliffe Lookout pavilion.

Safety across the Rockcliffe Lookout node will be widely improved with new signalized pedestrian crossings and more sophisticated automobile intersections. A traffic light will be implemented at the intersection between the roadway and the turn-around that connects the bus stop and parking lot. Traffic will be able to travel north from this intersection to the Rockcliffe Boathouse. The existing driveway will be extended to the intersection and repaved with a textured pavement that is both sensitive to the stormwater runoff needs of the cliffed site and creates a pedestrian-oriented street, permitting only slow-moving vehicle traffic. Design features for the driveway will be inspired by a Dutch "woonerf" or "living street". This will encourage more pedestrians to travel down to the existing waterfront amenities, providing safer and more accessible connections to the water in an otherwise elevated area.

Signalized pedestrian crossings will be implemented at the existing intersection between Lisgar Avenue, the SGEC Parkway and the Ottawa River Pathway. New connections for pathway users will also be implemented to access the node's amenities and join an improved multi-use pathway on the northside of the parkway when traveling east past the Lookout. This pathway will be widened, by virtue of narrowing the travel lanes, to permit two-lane bike traffic and a pedestrian walkway. Bike traffic signs for reduced speed and stop signs will be implemented at key pedestrian intersections to ensure cyclist and pedestrian safety through the narrowest section of the corridor. The sidewalk on the southside of the roadway will be elevated to improve safety. Interpretation boards will be installed at connection points to surrounding neighbourhoods to educate users on the region's heritage and encourage exploration.

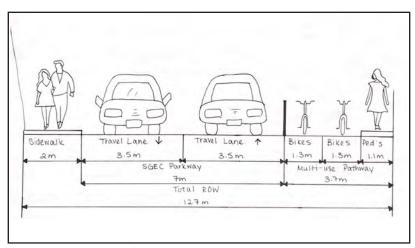


Figure 14: Cross section of the pinch point in Character Area 1 between Lisgar Road and Acacia Avenue. The multi-use pathway extension begins at the demonstration plan, while the travel lane width has been decreased. Due to space constraints, the multi-use pathway will accommodate both leisure cyclists and commuter cyclists.



Image 100: Separated bike lanes on Water Street in Kitchener, Ontario. This is an option design for areas where space is limited (Adams, 2019).

Implementation

Figure 15 (right) shows a broad implementation timeline for the enhancements of the Rockcliffe Lookout Point which will take place in three phases over a 15-year time period. The first five-year phase will culminate in the improvement of pedestrian crossings and amenities, such as picnic facilities and a temporary washroom. The second five-year phase will conclude with the completion of the widening of the multi-use pathway, realignment of the roadway, and construction of the turn-around and bus shelter. It will also include all the necessary studies, infrastructure, and landscaping for the road realignment and introduction of a bus stop, including the implementation of a signalized intersection. Finally, the third five-year phase will lead to the completion of the parking lot realignment and pedestrianization of the Rockcliffe Boathouse driveway. Final landscaping will rely on the complete realignment of the roadway and parking lot. However, extensive studies and public consultation, as well as an extended construction period, will need to be encompassed in the implementation of these changes.

Design Features	Short Term (within 5 years)	Medium Term (5-10 years)	Long Term (10-15 years)
Seating and picnic facilities			
Pedestrian crossings			
Washrooms			
Pathway improvements and widening			
Signalized intersection			
Road realignment			
Bus loop and shelter			
Parking lot realignment			
Pedestrianization of access road			

Figure 15: Broad implementation timeline for proposed Rockcliffe Lookout demonstration plan.

9.2 Flats Feature Node: Blair Boat Launch

The Blair Boat Launch was selected as the feature site plan in the Flats as it is a key existing node in this character area. This site is located east of the Canada Aviation and Space Museum and Rockcliffe Airport and is only accessible through Massey Lane, with no direct connection to the SGEC Parkway. Currently, the Blair Boat Launch consists of a parking lot and a boat slip connected to the road for users to launch their boats from. This site has the potential to be multi-modal and have a variety of active and passive recreational uses. With the enhancements proposed in the feature site plan, the Blair Boat Launch will become a point of increased activity and a major draw to the SGEC Parkway.

Importance

During consultation with stakeholders at both the stakeholder interviews and the planning workshop, Blair Boat Launch was identified as an important node on the SGEC Parkway. In particular, the site is a key location for waterfront activation on the SGEC Parkway, as the only public boat launch east of the National Capital River Pavilion. It also serves as an area for passive and active interaction with the water. The presence of Kitchissipi Marina across the Ottawa River in Gatineau makes the Blair Boat Launch an excellent spot for creating interprovincial connections, bringing the experiences of the two nodes together. The boat launch already has some of the necessary infrastructure to create a great waterfront node, with a water access point and parking lot already available for users of the site.

The location of the Blair Boat Launch allows it to serve as a connection point for the entire Flats character area and the SGEC Parkway more broadly. Its proximity to the Canada Aviation and Space Museum, the Rockcliffe Flying Club, and the Rockcliffe Yacht Club creates an opportunity for further connection to these nodes, which will present users with a variety of experiences.

The roadway connection with Massey Lane allows access from the adjacent neighbourhood directly into the site. The site is also located near Blair Road, which could provide a connection to the Blair Road LRT station, allowing users to access the site through public transportation and increasing the accessibility of the site. There is also a great deal of space around the Blair Boat Launch, which can be utilized to expand the node while maintaining the quiet comforts of a natural setting.

Design Ideas

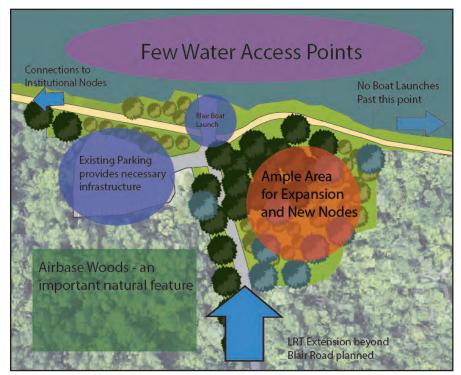
The enhanced Blair Boat Launch will include a variety of new active and passive recreational activities that allow for more waterfront activation and stronger connections to the other assets in the park, the surrounding communities, and Gatineau.

The Blair Boat Launch will include a variety of new recreational activities. Most of these will be located east of Massey Lane. This has been done to preserve the natural features of the Airbase Woods, located on the west side of the area. The only development in this area will be an expansion of the parking lot to accommodate the new recreational uses on the site, most notably a restaurant. This expanded lot will be converted into a paid parking lot to discourage its use as a commuter parking facility.

To the east of Massey Lane, there will be a multi-functional pavilion. The pavilion will include a rental facility, where users can rent kayaks, canoes, and paddleboards. The rental facility will contain a seasonal component, with bicycle rentals and repairs in the summer and cross-country ski and snowshoe rentals in the winter. The pavilion will also house a restaurant, with a patio facing the waterfront. Additionally, the pavilion will contain a snack bar, public washrooms, and bicycle parking and will serve as a gathering point in the area.



Image 101: The Dow's Lake Pavilion in Ottawa. Rentals are also available here (Bale, 2020).



Recreational Dock

Promenade

Water Bus Shelter

Multi-functional Pavilion

Bus Stop

Additional Parking

Figure 16: Functional analysis of the Blair Boat Launch area.

Figure 17: Demonstration plan of the proposed Blair Boat Launch area.

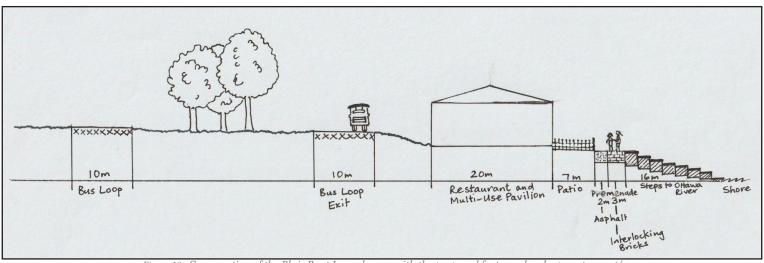


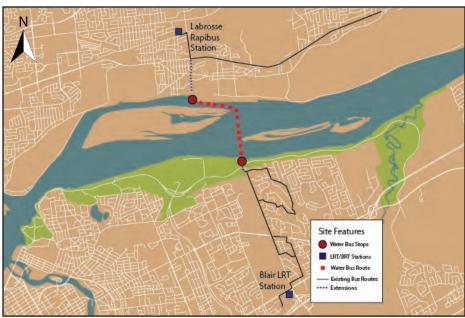
Figure 18: Cross section of the Blair Boat Launch area with the proposed features: bus loop, restaurant/multi-use pavilion, patio, multi-use waterfront promenade, and steps to the water.

Along the waterfront, there will be a 5-metre wide promenade pilot project that will connect the Blair Boat Launch with other nodes, such as the Rockcliffe Flying Club and the Canada Aviation and Space Museum. This promenade will be a "t-shape", running along the Ottawa River Pathway from the Rockcliffe Yacht Club/Rockcliffe Flying Club to the Blair Boat Launch and alongside the Airport Marina Road, with a signalized crossing to the new Wateridge Village community. This promenade will include lighting in accordance with the *Capital Illumination Plan* (2017), benches, and access points to the water, creating a pleasant walking experience for users.

The Blair Boat Launch will also include an additional slip for users to launch boats, as well as kayaks, canoes, or paddleboards. The site will also include a stairwell water access point on the east side, where users can safely access the water in a controlled manner. There will also be opportunities for visitors to use these steps to sit and enjoy the water or enjoy a meal. On the west side of the site, there is another pier which, unlike the eastern pier, is dedicated to recreational use. Visitors can use this to launch kayaks and canoes.



Image 102: Stepped rest area leading to the water in Breakwater Park in Kingston, ON (City of Kingston, 2020).



Map 22: A map illustrating the existing transit infrastructure and proposed connection between Ottawa and Gatineau from the Blair Boat Launch.

Due to its location near Blair Road and its proximity to Kitchissipi Marina on the other side of the Ottawa River, the Blair Boat Launch will create a connection between Ottawa and Gatineau through a water bus. Bus transit from the Blair Road LRT station will connect with the site via a proposed bus loop in the eastern side of the site, where passengers can access the water bus dock to cross the Ottawa River. On the Gatineau side, the Labrosse Rapibus station is well-positioned to provide transit access to the Kitchissippi Marina. As Map 22 shows, an extension of the bus route is needed on the Gatineau side, while a slight re-route of bus route 23 would be sufficient on the Ottawa side. These transit extensions would provide immediate and equitable access to the waterbus service and would allow residents in Gatineau to access the recreational uses on the site, as well as employment areas such as the National Research Council and Canadian Security Intelligence Service located along Blair Road.

Implementation

Figure 19 (right) shows a broad implementation timeline for each proposed design feature. The enhancements of the Blair Boat Launch will take place in three phases over a 15-year time period. The first five-year phase will culminate in the improvement of servicing to the area, including the improvement and addition of slips, and the creation of new docks. The additional parking will also begin during this phase. The first phase will also include all the necessary studies, infrastructure, and landscaping for the promenade pilot program and the stairwell access point. The second five-year phase will culminate in the completion of the promenade and the stairwell water access point. The multifunctional pavilion, with the rental facility, restaurant, and public amenities, will also be built during this phase. The preliminary stages of the bus loop's construction will also begin during this phase. Finally, the third five-year phase will lead to the completion of the bus loop, the extension of transit to the site, and the creation of a water bus connection to Gatineau.

Design Features	Short Term (within 5 years)	Medium Term (5-10 years)	Long Term (10-15 years)
Additional Servicing			
Improvement/ Addition of Slips			
New Docks			
Additional Parking			
Promenade Pilot Program			
Stairwell Access Point			
Multi-functional Pavilion			
Bus Loop			
Water Bus			

Figure 19: Broad implementation timeline for proposed Blair Boat Launch demonstration plan.

9.3 Greens Feature Node: Shefford Point

Shefford Point is a new node that will be created for the SGEC Parkway in the Greens character area. The area that will be planned for is roughly 18 hectares of land just north of the Robert O. Pickard Environmental Centre and the Richcraft Sensplex recreation centre. Beginning from Shefford Road, the site continues on both sides of the roadway, terminating close to the Pollinator Garden and NCC Parking Lot 8. The site area is just outside the Greenbelt, which begins just east of the Environmental Centre. The site has some tree canopy cover, particularly in the section just north of Shefford Road, but otherwise has relatively little tree canopy compared to the rest of the Greens character area. The absence of tree cover on pockets of the site allow for views of Ottawa River from the roadway, which can be retained with very little tree removal.

Importance

The site was selected as a node owing to its numerous geographical and ecological advantages. Primary among these advantages is the excellent views of the water from the roadway. The site topography is relatively flat, allowing it to support potential outdoor programming and affording safe access to the water. Additionally, the site is well-located, being the only part of the character

area, other than the easternmost section near Orléans, that is close to residential neighbourhoods. Its proximity to neighbourhoods ensures not only that there will be demand for the proposed activity on site, but that activity on the site will be concentrated away from the most natural habitats in the character area. Owing to its proximity to NCC Parking Lot 8, the site benefits from already having an adequate level of parking services to support new activity. The site also has the advantage of being close to the Pollinator Garden node, which will complement the new programming proposed for the site and inform the level of additional activity proposed.

Design Ideas

During the planning workshop and through interviews with NCC and other stakeholders, it was determined that while the parkway would benefit from transit access, it would be detrimental to run transit directly on the roadway. To address this, a new bus loop serviced by local transit buses is proposed off Shefford Road. The design of the loop would be such that it would end before the roadway, thus ensuring that there would be no interaction between transit buses accessing the loop and the roadway. The loop is designed to be small, with minimal impact on the greenspace in the area. A bus shelter equipped to keep users warm in the winter will be situated along the bus loop. Furthermore, lighting will be provided at the loop and along the path leading to Shefford Point to ensure user safety at night. There is an opportunity for a small public art component at the bus loop that could commemorate the Canadian Francophonie and/or Indigenous history of the SGEC Parkway. The loop will connect across the roadway via a new signalized pedestrian crossing, which would have the additional benefit of providing traffic calming in this area of the Parkway.

Across from the bus loop, a picnic table area will be created as well as a new multipurpose building that will include a bathroom, bike repair station, and storage for the paddle sport launching dock. The building would provide necessary servicing on this section of the Parkway and would be optimally located close to both the picnic area and the bus loop.

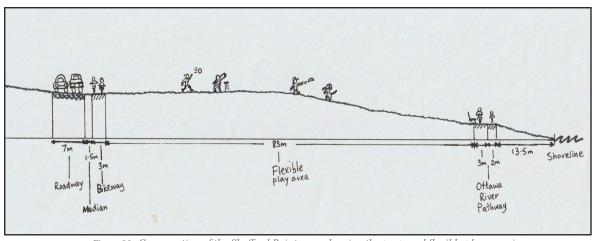


Figure 20: Cross section of the Shefford Point area showing the proposed flexible play area in relation to the road, separated bike path, Ottawa River Pathway, and the water.

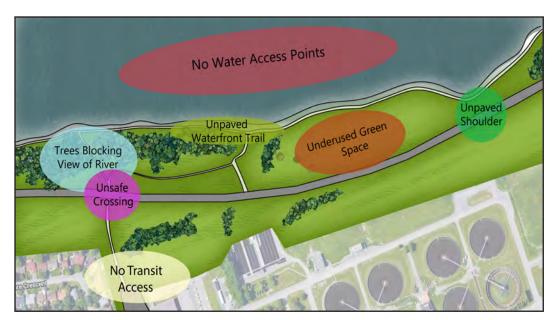


Figure 21: Functional analysis of the Shefford Point area (left).

Figure 22: Demonstration plan of the proposed Shefford Point area (below).



Aviation Pathway would terminate at the node, linking up to the Ottawa River Pathway at the picnic area. Proper signage would be included to direct commuter cyclists off the Aviation multi-use pathway and onto the separated cycleway connecting to the commuter cycling lane alongside the SGEC Parkway. The picnic table area would function as an end-of-trip destination, with Shefford Point acting as the eastern anchor of Aviation Pathway. The construction of the picnic table area would coincide with selective tree removal, which would allow for views of the river while providing shade for picnickers.

New stepped seating, north of the picnic area along the Ottawa River Pathway, would add a controlled access point to the water while providing for much needed flood mitigation measures in this area. Beginning at the stepped seating, the Ottawa River Pathway will have permeable pavers added to the pathway. To limit the amount of hardscaping, these permeable pavers would not continue the length of the character area. The lower pathway in this section of the SGEC corridor will remain gravel and will be subject to seasonal flooding.

Additionally, beginning at the steps, the Ottawa River Pathway will have separated pedestrian and cycle paths, with 3 metres of path marked for cyclists and 2 metres for pedestrians. In the winter, the Ottawa River Pathway will need to be groomed to accommodate winter recreational activities such as snowshoeing and cross-country skiing, ensuring that the path can be enjoyed in all seasons.



Image 104: A good example of wayfinding signage in Port Hawkesbury, NS (NCC, 2020).



Image 103: The bus loop at the Montreal Street Park and Ride in Kingston, ON (Google 2018).

Moving east from the picnic area, a flexible play area will be added on the open space between the roadway and the Ottawa River Pathway. This space is kept flexible to allow users to play soccer, cricket, or other recreational sports while limiting the amount of hardscaping added to the site, keeping with the overall constitution of the character area.

Along the flexible play area, the Ottawa River Pathway will have benches and seating areas to allow for passive contemplation of the river. The pathway will also incorporate commemorative public art and provide helpful wayfinding signage that would help contextualize the site for visitors, while also containing an education component.

Additionally, a 20-metre-long pier will extend into the river to provide a safe, separated space for visitors to launch kayaks, canoes, and paddle boards. This launch, combined with programmed kayak tours of Lower Duck Island, will allow engagement with the river and enable visitors to learn about and appreciate the island without disturbing its ecosystem.

Along the entire site, there would be opportunities for passive enjoyment of the space. New park benches and informal seating as well as additional landscaping will provide rest stops for passive contemplation and appreciation of the waterfront.

As the Ottawa River Pathway continues east, it curves south parabolically. A wooden boardwalk would extend across this curve in the shoreline, providing another passive viewpoint of the water. The boardwalk will be a wood and steel suspended boardwalk sitting on several poles drilled into the riverbed. This design will have the effect of raising it above the 100-year flood mark as to reduce potential damage from flood events. Precedent for this type of design is shown in Richmond Hill's Lake Wilcox boardwalk, which utilized this same technique with environmentally sensitive methods and materials. Additionally, the roadway in this area would be realigned south by 30 metres, allowing for the proposed bidirectional bikeway to continue through this area. Continuing east, the site would terminate before the Pollinator Garden node.



Image 105: Example of a long pier for launching kayaks, canoes, and other light craft (Connect-A-Dock, n.d.).



Image 106: The floating boardwalk at Lake Wilcox Park in Richmond Hill (Wang, 2020).

Implementation

Figure 23 (right) shows a broad implementation timeline which outlines each proposed design feature as well as an estimated implementation time frame. The first phase will occur within five years. This phase will include wayfinding signage, educational panels, landscaping, and installation of picnic tables and benches. Local events and public art can also be easily generated through involvement with the community and local organizations. These quick changes can bring activation to the character area in the short term.

The second five-year phase will see the completion of pedestrian crossings, multi-use path widening and realignment, seating stairs to the water and the waterfront boardwalk. Since these features will require involvement from engineering departments and the RVCA as well as approvals for construction, a medium-term time frame of six to ten years will be necessary.

The third phase of the implementation plan will constitute the large-scale proposals for the site, such as the roadway realignment, pier, and the bus loop. These will require road closure and construction, over water in some cases, resulting in a long-term implementation time frame. The rest area is dependent on new servicing, also resulting in a long-term implementation time frame.

Design Features	Short Term (within 5 years)	Medium Term (5-10 years)	Long Term (10-15 years)
Public Art and Educational Signage			
Landscaping			
Picnic Area			
Seating and Lighting Along Paths			
Local Events			
Pedestrian Crossings			
Seating Stairs to Water			
Multi-use Waterfront Trail Widening and Realignment			
Realignment of SGEC Parkway			
Shefford Rd. Transit Connection and Bus Loop			
Paddle Sports Launch Pier			
Rest Area and Washrooms			

Figure 23: Broad implementation timeline for proposed Shefford Point demonstration plan.

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10.0 Implementation

The re-envisioning of the Sir George-Étienne Cartier Parkway corridor was completed through an amalgamation of existing conditions and precedent research, stakeholder consultation, and visioning sessions conducted by the team, culminating in the design concepts proposed across the site. The three feature demonstration plans fully fleshed out these design concepts, demonstrating the unique experiences available in each of the character areas and the potential of the SGEC Parkway. These design concepts are supported by corridor and character area design guidelines, policy recommendations, and broad implementation strategies. The details of these design guidelines and policy recommendations can be found in Appendix G.

The goal of these recommendations and strategies is to create a parkway corridor that offers a range of experiences while maintaining a unified, federal presence throughout. The Parkway design should strive to meet the key planning principles identified by the team, creating a space that respects the environment and heritage of the corridor while enhancing accessibility and connectivity to allow people of all interests and abilities to enjoy the space; a Parkway that is truly reflective of who we are as Canadians.

The design concepts for the site and their implementation should build upon the natural and physical environment of the Parkway and prioritize their protection by implementing flood and erosion mitigation measures across the corridor, as well as setbacks from the water where feasible. New designs should strive to incorporate permeable and sustainable materials that will minimize impact on the surrounding natural areas. The natural and built heritage of the corridor are an important part of the identity of the SGEC Parkway and should be maintained and enhanced where possible. All design elements should be implemented with universal accessibility in mind, creating a more well-connected and safer environment for users.



Image 107: View of Gatineau from Rockcliffe Lookout.

Figure 24 (below) outlines the broad implementation timeline for the proposed design features across the SGEC corridor, reflecting the key planning principles and themes laid out for the Parkway. The implementation timelines for the feature demonstration plans can be found in Chapter 9.

Design Features	Short Term (within 5 years)	Medium Term (5-10 years)	Long Term (10-15 years)
Wayfinding & Educational Signage			
Programming ¹			
Commercial Opportunities ²			
Warming & Rest Stations			
Winter Maintenance of Cycle Lanes, Multi-use Pathway & Parking ³			
Recreational Facilities ⁴			
Gateway Features (through Public Art)			
Universal Accessibility			
Views – Creation & Protection ⁵			
Waterfront Access Points			
Erosion & Flood Mitigation ⁶			
Tree Replanting ⁷			
Promenade Pilot Program			
Crossings (Pedestrian & Vehicle; Signalized & Yield)			
Commuter Cycle Lanes ⁸			
Road Realignment ⁸			
Narrowing of Traffic Lanes ⁸			
Pathway Extensions and Widening			
New Neighbourhood Connections to the Site			
Transit Connections			
Green's Creek Bridge ⁹			

Figure 24: Broad implementation timeline for all proposed features within the SGEC Parkway study area.

¹ It is recommended that implementation of programming on the site, including activity coordination between nodes such as the RCMP Stables and the Aviation and Space Museum, occur as soon as possible. This will include the creation of a programming plan for the corridor.

² It is recommended that implementation of commercial uses occurs in the short term, with these commercial spaces including temporary units, such as trailers, movable buildings, etc., as well as permanent structures.

³ In the short term, the winter maintenance of parking lots near key nodes outlined in the feature demonstration plans should be prioritized. Commuter cyclist lanes should be cleared to allow for winter cycling, while the multi-use Upper Pathway and other trails throughout the site should be groomed to allow for winter recreational activities.

⁴ The implementation of recreational facilities will include the addition of picnic tables, fire pits, playgrounds, flexible sports fields, and other facilities in nodes across the SGEC corridor.

⁵ The existing views along the corridor should be maintained, with areas outlined for invasive species and overgrowth removal being prioritized. A view protection study and plan is recommended as part of the planning process. It is recognized that the NCC's ability to update plans and studies is limited. If possible, visual assessments should be completed at regular 5-7-year intervals to ensure that policies in the *Capital Lands Plan* (2015) and the *Capital Pathway Strategic Plan* (2020) are being met. The results of these assessments can guide updates to existing and new policies on views, keeping them up to date with the current context. The creation of new views should be prioritized, as they will contribute to the promotion of the SGEC Parkway as the scenic route that was initially envisioned for the Parkway.

⁶ Environmental assessments should be conducted prior to the development of waterfront access points, especially in areas within the floodplain or with high erosion potential. Best-practice mitigation techniques should be implemented in the short to medium term for any existing features that need to be protected, and for all new developments that take place along the shoreline of the corridor.

⁷ In the short-term, Green's Creek and the surrounding area should be prioritized for reforestation. As a key environmental asset and an important natural habitat suited to low-impact uses, tree planting would further increase the forest cover in the area. Tree re-planting will occur in conjunction with the protection, enhancement, and creation of views and nodes, with all removed trees being compensated with the planting of new trees elsewhere along the Parkway to ensure that there is no net loss in tree coverage. Other locations that should be considered for re-planting include areas where trees and their root systems will stabilize environmental risks such as shoreline stabilization, unstable slopes and soils. Existing trees in these areas that currently stabilize environmental risks should not be removed.

⁸ The design, siting, and implementation of the commuter cycle lanes, road realignments (including the interchange removal), and narrowing of traffic lanes should take place concurrently to ensure that these features work harmoniously together, to minimize disruption, and to maximize cost efficiencies. Concurrent implementation of these features would be financially beneficial for the NCC, as it would eliminate the need to rebuild existing infrastructure or undergo long-term construction of the site. For example, narrowing traffic lanes can be done through the addition of on-road cycle lanes, reducing the amount of new infrastructure needed.

⁹ The construction of the Green's Creek bridge should take place in the medium to long term phase of the implementation timeline. It will be necessary to conduct environmental assessments and other studies to determine the proper location for the bridge, hence the extended timeline. The bridge will become a new access point to the site, connecting the eastern-most neighbourhoods directly to the waterfront pathway.

References

National Capital Commission. (2015). Capital Urban Lands Plan. https:// ncc-website-2.s3.amazonaws.com/ documents/Capital-Urban-Lands-plan.pdf

National Capital Commission. (2020). *Capital Pathway Strategic Plan*. https://ncc-website-2.s3.amazonaws.com/documents/Pathways-BOOK-10-15-2020-EN_Final_Compressed.pdf

11.0 Conclusion and Recommendations

The Sir George-Étienne Cartier Parkway corridor should be a place where people of all ages and backgrounds come to enjoy passive and active recreational opportunities and interact with the beautiful nature that Canada's capital has to offer. The SGEC Parkway should reflect the existing character and heritage of the surrounding area and should be a place that reflects the Nation's Capital as a whole. The SURP 824 project team, in collaboration with the National Capital Commission, has created this report to provide a set of demonstration plan concepts, design guidelines, and implementation strategies for re-envisioning the SGEC Parkway corridor into a distinctive and memorable riverfront parkway.

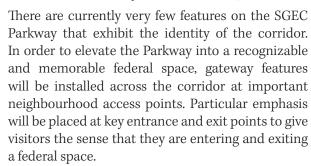
Precedent and existing conditions analyses, stakeholder consultation, and a series of visioning exercises and workshops informed the re-design of the SGEC Parkway corridor into a distinctive riverfront experience that will become a federal destination for all people for many years to come. Six planning principles - environment, heritage, connectivity, accessibility, safety, and recreation were determined as key to the re-imagination of the Parkway as a truly federal space. These principles informed the goals and objectives that would frame the design guidelines for both the entire corridor and each individual character areas. The decision to create guidelines for each character area was made to ensure that design elements complemented and enhanced the different experiences offered by each area, while taking into consideration the different demographic and topographic characteristics of each area along the corridor.

The ultimate purpose of re-imagining the SGEC Parkway is to put the "park" back into the "parkway". The following concluding take-away points should be taken into consideration by the NCC to determine the next steps for the Parkway:

Goal 1: Roadway

The SGEC Parkway is currently being used as a commuter road for high speed vehicular traffic, despite this not being the original intent for the Parkway. The re-imagined Parkway will prioritize pedestrians and active transportation over commuter traffic. This will primarily be achieved through traffic calming measures and the inclusion of on-road bike lanes. The Parkway will need to be reconfigured in order to return it to its intended purpose, which is to provide a leisure experience with scenic views for pedestrians, cyclists, and drivers. Through the proposed roadway changes, the site will become a safer place for pedestrians and cyclists and will provide more access points from surrounding neighbourhoods.

Goal 2: Gateway Features 💸



The use of a variety of gateway features throughout the site, such as sculptures and public art, will ensure that not only the identity of the SGEC Parkway is displayed, but also the identity of each character area. Partnership opportunities with the Société franco-ontarienne du patrimoine et de l'histoire d'Orléans (SFOPHO) and with Indigenous groups should also be explored to ensure that they are appropriately represented in the gateway features and public art across the corridor.

Goal 3: Pathways

There are many opportunities throughout the corridor to enhance and expand the existing multiuse pathway system. The Ottawa River Pathway should primarily be used as a means to reconnect with nature, allowing people to enjoy the scenic Ottawa River and access the waterfront, providing an escape from the rush of the city. On the other hand, the Upper Pathway should be primarily used for high-capacity leisure uses such as cycling. This will be achieved by widening the pathway, which will provide more space for these high-capacity recreational uses and for potential winter recreational opportunities such as cross-country skiing. However, in order for winter use of the pathways to occur, it is recommended that warming stations be installed at appropriate locations and winter maintenance take place across the site, with particular emphasis on pathways and the on-road bicycle lane.

Goal 4: Waterfront 📥



While waterfront activation is an essential part of the Parkway re-envisioning, it is essential that it be balanced with the maintenance of the natural environment and the protection and enhancement of the shoreline. New water access points were located where there would be minimum habitat disruptions and there was a conscious effort to enhance existing water access points (such as Blair Boat Launch) over creating new access points wherever possible. The stakeholder consultations revealed that the waterfront is a special part of the SGEC Parkway for users. The proposed design guidelines aim to maintain this important asset and create a place where users can connect with nature, balancing access with protection.

Goal 5: Nodes 💥



Many of the existing nodes in the SGEC corridor are "hidden gems" that are not well known and hard to access. The re-envisioning of the SGEC Parkway aims to change that, creating accessible and unique nodes across the corridor. There has been a conscious effort to expand and enhance existing nodes into memorable destinations that will draw users of all interests to the Parkway.

New nodes have also been proposed in underutilized spaces across the corridor to expand the range of experiences offered by the Parkway. The types of recreational and educational opportunities at each node is reflective of their respective character areas.

Increased programming opportunities on the site, such as the Warming Station competitions or potential partnerships with SFOPHO, can further the draw of the Parkway and elevate it to a truly federal space.

Both new and enhanced nodes have taken the effects of climate change into consideration, including consideration for infrastructure, environmental habitats, and landscape resilience. These nodes have also been designed for all-season recreational use, with important consideration for creating an accessible environment that can be enjoyed by people of all ages and abilities.

Policy Analysis

The proposed designs for the corridor have been created after careful consideration of the existing policies in place from the NCC and the City of Ottawa. Figure 25 demonstrates how the proposed designs improve the existing corridor and better reflect the policies currently in place for the site. The Capital Pathway Strategic Plan (Figure 26) and the draft Parkway Plan Update (Figure 27) were considered in more detail as these policies directly influence the site. It is clear that the proposed design features and guidelines throughout the corridor will bring the site into better compliance with these two policies.

SGEC Corridor Proposed Conditions			
	Existing	Proposed	
National Capital Commission Policy	Compliance		
Greenbelt Master Plan (2013)			
Capital Urban Lands Plan (2015)			
Plan for Canada's Capital (2017)			
*Draft Parkway Policy Update (2020)			
Capital Pathway Strategic Plan (2020)			
Other Notable Policies	Compliance		
City of Ottawa Greenspace Master Plan (2006)			
City of Ottawa Pedestrian Plan (2013)			
City of Ottawa Cycling Plan (2013)			

Figure 25: Policy matrix comparing the site's compliance to NCC and City of Ottawa policies. Compliance is shown for the existing conditions and the proposed design. Poor compliance is indicated in red, moderate compliance is indicated in yellow, and high compliance is indicated in green.

Capital Pathway Strategic Plan Evaluation			
Pathway Guidelines	Existing Conditions	Proposed Conditions	
User Experience			
Pathway Anatomy			
Network			
Visual Identity			
Access			
Junctions			
Edge Treatments			
Pathway Width			
Segregated Pathways			
Treatment Zones			
Roadways and Motor Vehicles			
Landscape Character			
Green Spaces			
Shorelines and Flood Plains			
Placemaking and Public Spaces			
Pathway Construction			
Lighting			
Winter Design			
Other Scenarios			

Figure 26: Comparison of how the existing conditions
and proposed conditions adhere to the Capital Pathway
Strategic Plan (2020). Poor compliance is indicated
in red, moderate compliance is indicated in yellow,
and high compliance is indicated in green.

Draft Parkway Plan Update Evaluation			
Policy Directions	Existing Conditions	Proposed Conditions	
Stewardship			
Travel Way and Corridor Design			
Use of Parkways			
Signage			
Landscape			
Views			
Interpretation			
Maintenance and Enforcement			
Cultural Heritage			

Figure 27: Comparison of how the existing conditions and proposed conditions adhere to the Draft Parkway Plan Update (2020). Poor compliance is indicated in red, moderate compliance is indicated in yellow, and high compliance is indicated in green.

11.1 Recommendations

The implementation of the proposed design features across the SGEC Parkway will require multi-jurisdictional collaboration and communication. The following are recommendations for the National Capital Commission, to ensure that implementation of the proposed design features and the long-term vision for the SGEC Parkway is achieved.

- It is recommended that the NCC, in collaboration with the City of Ottawa, extend the existing multi-use pathway along the entire south shore of the Ottawa River through Orléans.
- It is recommended that the NCC, in collaboration with the Province of Ontario and the City of Ottawa, create a riverfront parkway that extends eastward from the end of the study area in Orléans to at least the eastern-most boundary of the City of Ottawa, if not further.
- It is recommended that the NCC provide signage for pedestrians and cyclists on all NCC-owned land, and in collaboration with the City of Ottawa and Province of Ontario, provide signage on the Sir George-Étienne Cartier Parkway for drivers and cyclists. The signage should resemble that of national parks and other NCC owned lands.
- It is recommended that the NCC, in collaboration with surrounding neighbourhood associations and cultural heritage groups, provide programming and educational opportunities on the site.
- It is recommended that the NCC implement design features such as a warming and rest station design competition within appropriate nodes, creating a unique identity on the site.
- It is recommended that additional plans and strategies be developed prior to implementation of certain design features. These additional plans and strategies may include a programming plan, a commercial strategy, a view protection plan, and a vegetation strategy.



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