NCC CCN

Canada

Pathway Network for Canada's Capital Region

2006 Strategic Plan

June 2006

Study Undertaken by the National Capital Commission in Collaboration with

Ottawa

Ville de Gatineau

THE VISION

The National Capital Commission (NCC) and its partners propose the following as a framework for the planning and development of the Capital Pathway network for the next 10 years:

Multi-purpose use

- The Capital Pathway network covers Canada's Capital Region in its entirety. It is a multi-purpose recreational and tourist network, which also supports non-motorized commuting vocations.

Accessibility and safety

- The network extends to and links natural and built areas. Through its layout and design standards, the network encourages a quality user experience and accessibility, emphasizing the recognition of the "Green Capital", and highlighting symbolic points of interest within the Capital. The network provides access to waterways, green spaces, cultural and heritage features while supporting the protection of natural areas and offering a wide range of easily accessible services. User education and awareness programs targeting pathway sharing in a respectful and tolerant manner result in a safe and pleasant experience.

Connectivity

- The network, through its linkage with local cycling routes and regional/national trails, is connected to other non-motorized transportation networks within the region to encourage sustainable transportation and forms a key component of Canada's Capital recreational and cycling experience.

Recognition

- The network, as a result of its multi use vocation, its extensive and far reaching system of pathways and connection with regional, provincial and national trails and pathways within and outside Canada's Capital Region as well as the quality of the experience is regarded as one of North America's best.

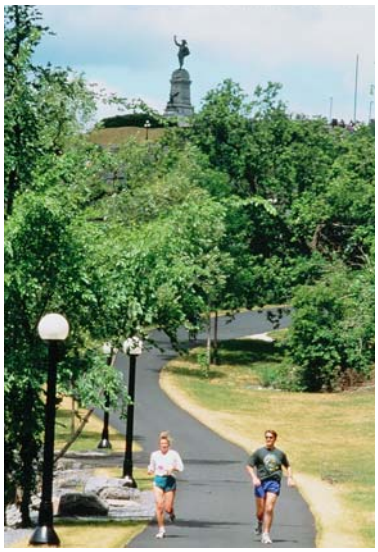
EXECUTIVE SUMMARY

The Context

In 1994, a study for the planning and implementation of an integrated network of recreational pathways for the National Capital Region (NCR) was finalized. The NCC, 12 municipal and 3 regional partners from within the Capital Region (the Regional Municipality of Ottawa-Carleton, the *Communauté urbaine de l'Outaouais*, and the MRC *des Collines de l'Outaouais*) put forth a common vision for an integrated pathway network within Canada's Capital Region.

The study addressed the completion of missing links and the addition of new connectors and segments to form an integrated pathway network with consistent quality standards. As well, the study investigated the marketing of this expanded network as a means of promoting Canada's Capital Region's image as a green environment dedicated to preserving the region's natural heritage. It has also served as a valuable tool in supporting and promoting the NCC's Green Capital Strategy.

The National Capital Commission's 2003-2004 to 2007-2008 Corporate Plan indicated that the Strategic Development Plan for an Integrated Network of Recreational Pathways for the NCR (1994) required updating by 2005-06. At present, the main objectives and expectations of the partners are as follows :



- Validate the recreational pathway's vocation, orientation and concept.
- Clarify pathway definitions and hierarchies.
- Identify the partners as well as their plans, programs and priorities in order to ensure a concerted effort.
- Identify and update major destinations and missing links.
- Establish policies and strategies to ensure interconnections between networks.
- Validate standards for planning and design, construction and maintenance.
- Establish strategies to improve safety and services along the pathway network.
- Provide guidelines to improve marketing and service enhancement for visitors and tourists.

The Strategic Plan is in continuity with the various development plans and studies for Canada's Capital Region. A review of documentation relevant to understanding the pathway network shed light on many issues such as its vocation, layout concept, design standards, safety, signage, marketing, implementation and environmental integration. Workshops held in November 2004 allowed these issues to be further substantiated.

The Clientele

Baby Boomers, Generation X and Y are currently the network's main users and are the main clientele for the upcoming decade. As a result, trends and factors indicate an increase in travel for recreational or functional purposes as well as changing needs and behaviours using alternative means to the automobile. Indications might include:

- An aging population that might see an increase in walking and in the use of assisted mobility devices such as wheelchairs, electric bicycles and tricycles.
- Changing user behaviour including trip purpose, skill level and age group.
- Environmental concerns that would encourage the use of less polluting means of transportation.
- Health awareness that promotes physical activity as part of the daily routine and encourages the use of the pathway network for recreational purposes.

Marketing and Advertising

Enhance the image of Canada's Capital as the recreational destination in Canada for cycling, strolling, running, rollerblading and walking by promoting active lifestyles, safety, sustainable green transportation and recreation.

Standards

Design, layout and maintenance standards represent minimum criteria and allow planners and designers with a certain flexibility in the network planning process. Performance criteria are recommended to meet the proposed design, layout and maintenance standards.

The Capital Pathway Network pursues its universal accessibility policy and establishes criteria pertaining to self-propelled vehicles and assisted mobility devices.

Safety

The network's safety aspects have been refined and addressed:

- Integrating safety criteria in the planning and design process using an evaluation grid;
- Improving the prevention program and incident follow-up including inquiries and corrective measures;
- Promoting the user code of conduct to emphasize pathway sharing.

Signage

Signage is the key to a network's use, its safety and popularity. Actions are underway to improve orientation and interpretation information:

- Integration with rest areas;
- Simple, clear and visually appealing signs;
- Design and use of an adapted signage system.

The Network

The pathway network is defined according to the following three principles:

- An integrated multi-purpose network of dedicated pathways shared by users for different reasons remains a defining principle;

- A network that links and provides access to historical, archaeological, symbolic, cultural, recreational and urban points of interest as well as tourist attractions and heritage elements while encouraging their interpretation;
- A network dedicated to a quality user experience.

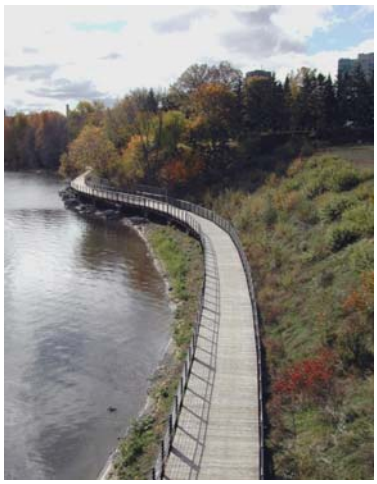
The design approach retained considers Canada's Capital Region's geopolitical structure and seamlessly integrates it throughout the region, resulting in:

- Three conceptual rings representing rural and urban sectors respective of the particular characteristics that have shaped the network.
- Main routes that ensure strategic access to the network.
- Connectors and links that integrate other regional elements and pathways.
- Service points that improve the quality of the experience.

It is imperative that the recreational pathway network be interconnected with functional networks at the local/ municipal level in order to develop an integrated approach for Canada's Capital Region, capable of providing sustainable transportation through alternate methods.

Thus, a pathway network structure that includes the various segments already in place is proposed, creating a coherent, functional and pleasant network that preserves and optimizes each segment's distinct characteristics:

- The Capital Pathway Network: existing and proposed multi-use pathways.
- Cycling facilities : locally-based on road cycling routes (i.e. the City of Ottawa's and Gatineau's on road bicycle network);
- Related regional networks: multi-purpose facilities of a regional, provincial or national scale integrated into the capital pathway network within Canada's Capital Region's (i.e. the *Route verte*).



The quality of user experience is an essential characteristic of this network and distinguishes it from local, primarily utilitarian facilities. The landscape bordering the pathway affects the user experience. In order to preserve and improve the quality of the landscape forming the pathway corridor, a management strategy for each pathway corridor layout has been developed. The pathway corridor includes its right-of-way as well as zones of influence that affect the quality of user experience. These zones are:

- A 6 m wide clearance zone;
- An immediate zone of influence having a minimum 6 m width on either side of the clearance zone and a total minimal width of 18 m. The zone of influence shall be subject to landscape impact and integration studies or evaluations in order to determine layout guidelines that are defined according to the pathway's context;
- A greater zone of influence, of varying width, defined by the extent of the visual field. This zone shall also be subject to landscape impact and integration studies or evaluations in order to determine an optimal, viable width for corridors.

Development and Sustainability

The development and sustainability of the pathway network depends on the creation of effective tools for the strategic plan's implementation and includes:

- An accountable organizational structure:
  - Create an inter-agency steering committee to support the promotion and development of the network;
  - Address the overall network administration as a dedicated program requiring regular updates to senior management and official committees;
  - Develop partnership agreements with key public and private sector groups.

- Committed volunteer involvement :
  - Create a volunteer group dedicated to the network's safety, aesthetics and maintenance activities;
  - Collaborate with the permanent inter-agency steering committee.
- Funding and partnerships:
  - Multi-year budgets should be identified by agencies responsible for the network in order to ensure its sustainability, appropriate management and required future development.
  - Partnerships in the development, programming and promotion of the Capital Pathway Network should be explored in order to assist in the funding of key initiatives and heightening the Network profile.

- Mechanisms for the protection of identified corridors:
  - Preserve tracts of land dedicated to the establishment of future pathway corridors;
  - Ensure required parcels of land essential to the consolidation of corridors are acquired/ protected on a priority basis in accordance with funding strategies.
- The development of a management strategy for these designated corridors includes:
  - Mechanisms to protect designated corridors and ensure the continued development of the integrated pathway network throughout the region;
  - Feasibility studies that evaluate the characteristics of the natural and built environment to determine the best possible layout for future pathways;
  - Landscape integration studies/evaluations that consider the user's experience along the entire corridor.

- Winter use:
  - Winter use is encouraged through winter maintenance that allows cross country skiing, snowshoeing and walking on selected segments.

Cost Estimates

Cost estimates for construction are developed per standard 100 m long segment and range from $16 000 to $ 27 000 depending on the sector and proposed intervention.

The establishment of standard maintenance costs is encouraged as a tool to assist managers in the ongoing management of the network.

Environmental Assessment

The implementation of the strategic plan will in all likelihood have the following environmental impacts and should consider these recommendations where applicable:

- Interventions in flood plains and along shorelines should be carried out in accordance with regulations and laws in effect.
- Site vulnerability must be considered when constructing pathways, and construction techniques should be modified in consequence, as well as applying environmental protection measures such as clearly designating the intervention area.
- The interconnection of Canada's Capital Region's green spaces through a network has a positive effect on the quality of wildlife habitats and in maintaining biodiversity.
- The development of alternatives to motorized transportation has a positive impact on the resident's quality of life and on air quality, thereby contributing to the reduction of greenhouse gas emissions.
- Feasibility studies carried out at the pre-concept stage will allow the identification of sensitive elements within the natural and cultural heritage and encourage their protection and enhancement. This type of preventive measure has a positive effect on the quality of the natural and built environment.

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FORWARD

Plani-Cité are the prime consultant responsible for the development of the 2006 Strategic Plan report. The report was prepared for the National Capital Commission in partnership with the cities of Ottawa and Gatineau. The NCC project team consisted of :

- Mr. Bob Lewis, Director, Urban Lands and Transportation Division.
- Mr. Jean Charbonneau, Land Manager (Quebec and Capital Pathways), Urban Lands and Transportation Division.
- Mr. Gérald Lajeunesse, Chief Landscape Architect, Design and Construction Division.
- Mr. François Daigneault, Senior Landscape Architect, Design and Construction Division.
- Mr. Richard Scott, Principal Regional Planner, Planning Division.

Mr. François Daigneault acted as Project Manager for the project.

Additional representatives of the NCC and partner representatives provided invaluable assistance in the undertaking of this study. These representatives include:

From the NCC

- Ms. Lucie Caron, Media Relations Advisor, Strategic Communications Division.
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- Ms. Élizabeth Lacoursière, Officer, Public Consultation, Public Consultations and Community Relation Division.
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From the City of Gatineau :

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From the City of Ottawa :

- Mr. Robin Bennett, Cycling Facilities Coordinator, Public Works and Services Department.
- Mr. Nelson Edwards, Urban Designer; Planning and Growth Management Services Department.
- Mr. Wilf Koppert, Program Manager , TDM Cycling and Pedestrian Facilities, Public Works and Services Department.

CHAPTER 1 – INTRODUCTION

In 1994, a study for the planning and implementation of an integrated network of recreational pathways for the National Capital was finalized. The National Capital Commission, 12 municipal and 3 regional partners from within the Capital Region (the RMOC, CUO and the MRC les Collines de l'Outaouais) put forth a common vision for an integrated pathway network within Canada's Capital Region as a whole.

The study addressed the completion of missing links and the addition of new connectors and segments to form an integrated pathway network with consistent quality standards. As well, the study investigated the marketing of this expanded network as a means of promoting Canada's Capital Region's image as a green environment and its dedication to preserving the region's natural heritage. It has also served as a valuable tool in supporting and promoting the NCC's Green Capital Strategy.

The primary objectives of the study were to review and explore the following issues with the participation of municipalities within Canada's Capital Region:

- The network's concept.
- Implementation strategies and priorities.
- Design standards.
- A common signage vocabulary.
- Marketing tools.
- Funding opportunities.

The Strategic Development Plan for an Integrated Network of Recreational Pathways (1994 Strategic Plan) was approved by the NCC and its regional and municipal partners during the summer/fall of 1994. The Strategic Plan's recommendations were subsequently integrated into the official planning documents of these municipalities.

The Strategic Plan was beneficial in the development and optimization of the recreational pathway network over the last 10 years. It has helped to:

- Alleviate traffic congestion on roadways by providing an alternative means of active green transportation.
- Structure the landscape fabric by creating and protecting dedicated right-of-ways for pathway linkages (green corridors).
- Enhance the region's environmental, historical, cultural, heritage, recreational and urban elements.
- Preserve environmental quality by reducing greenhouse emissions, enhancing and protecting natural areas while establishing pathway linkages that encourage wildlife movement and biodiversity.
- Improve resident's quality of life as well as their physical and psychological health. The Ottawa-Gatineau region population's high level of physical activity is in part attributable to pathway networks that allow residents to integrate an active means of transportation into their daily commute (Ottawa Citizen -April 7, 2005).
- Reduce health costs and raise life expectancy.

- Increase property values.
- Reinforce Canada's Capital Region's "Green Capital" image.
- Make Canada's Capital Region a leader in integrating active green transportation and contributing to the quality of life of its residents.
- Provide a memorable experience.
- Improve recreational and outdoor activities.
- Develop quality sports, outdoor and recreational tourism infrastructure.

1.1 THE MANDATE

The National Capital Commission's 2003-2004 to 2007-2008 Corporate Plan indicates that the Strategic Development Plan for an Integrated Network of Recreational Pathways (1994) required updating by 2005-2006. In light of the recent municipal mergers that have reshaped the cities of Ottawa and Gatineau as well as significant new planning initiatives to be undertaken by the Commission and its partners, it is timely that the plan update process be initiated in 2004.

The main objectives and expectations of the partners are as follows :

- Validate the recreational pathway's vocation, orientation and concept.
- Clarify pathway definitions and hierarchies.
- Identify the partners as well as their plans, programs and priorities in order to ensure a concerted effort.
- Identify and update major destinations and missing links.
- Establish policies and strategies to ensure interconnections between networks.
- Validate standards for planning and design, construction and maintenance.
- Establish strategies to improve safety and services along the pathway network.
- Provide guidelines to improve marketing and service enhancement for visitors and tourists.

1.2 THE REVISED STRATEGIC DEVELOPMENT PLAN

A review of the strategic plan for Canada's Capital Region pathway network was carried out in three stages by a small committee of experts representing the various partners involved as well as in close collaboration with the partner cities of Ottawa and Gatineau.

The first stage was to review, evaluate and analyze the objectives, studies, plans, standards, programs and priorities of the partners involved in the study. These analyses made it possible to assess the achievements of the last decade and clearly visualize the current situation to identify the project's positive elements, its constraints and determine the main issues.

The second stage involved presenting these approaches, concepts, intentions and recommendations to the public during consultations held in Ottawa and Gatineau. Maps illustrating the various approaches were also presented at this time.

The final stage of this project integrates comments, remarks and suggestions resulting from the analysis process and public consultations to further elaborate the direction, concept and specific intent for Canada's Capital Region's pathway network. The objectives and final direction are retained and substantiated in the final report. Appendix 1 contains the summary of the public consultations held on November 17 and 18, 2004, in Ottawa and Gatineau.

1.2.1 Issue Identification and Evaluation

During this stage, the 1994 Strategic Plan as well as planning documents, urban master plans, overall development plans for various sectors as well as other studies and relevant programs were reviewed and analyzed. Government agencies not directly participating in the study update but which may have an impact on the development of Canada's Capital Region's pathway network through their programs and studies were also consulted, along with the partners. Non-governmental organizations (NGO) involved in the development and marketing of various types of recreational and cycling networks were also consulted. The following agencies were contacted by phone or email:

- Transport Québec
- Ministry of Transportation of Ontario
- Transportation Association of Canada
- Hydro Ontario
- Hydro Québec
- CN/CP
- La Société de Transport de l'Outaouais
- OC Transpo
- the Townships of Russell and Osgoode
- the Prescott-Russell Township
- MRC les collines de l'Outaouais
- MRC de Pontiac
- Municipalité de Chelsea
- the "South Nation" and "Rideau River" conservation authorities
- La Corporation du corridor récréatif du Lièvre
- Go for Green
- Rails to Trails
- Ontario Trails Council
- Vélo Québec
- Association of Pedestrian and Bicycle Professionals.

An assessment of case studies comparable to Canada's Capital Region's pathway network in terms of scale and vocation was then undertaken in order to discern trends and needs. Three case studies of multi-purpose regional networks were chosen and analyzed to shed light on useful or modifiable trends, thereby improving and refining interventions. These projects are: the "Regional Bicycle and Pedestrian Implementation Strategy" for the Central Puget Sound Region in Seattle, Washington; the "Southwest Urban Trails Plan Project" in Portland, Oregon; and the "Waterloo Community Trails and Bikeways Master Plan" in Ontario. The Waterloo recreational pathway network was also used as a comparison in the 1994 Strategic Development Plan for the pathway network.

Subsequent Internet research resulted in numerous other interesting examples, such as:

- The "Denver Bicycle Network", that inspired a preventive maintenance program.
- The United Kingdom's "National Cycle Network" for its marketing program.
- The "Alternative Transportation and Trail Master Plan (2003), from Fayetteville, Arkansas, the "Kingston Cycling and Pathway Study (2003)" in Ontario, the "Grand Concourse Integrated Walkway System" in St. John's Newfoundland, the "Bikeway/Pathway System" in Regina, Saskatchewan, the "Metropolitan Greenspaces Master Plan" from Metro Portland, Oregon, the "City of Calgary Pathway and Bikeway Plan (2000)" in Alberta and the "Vancouver Greenways System" (1995) in British Columbia for their overall planning approaches and implementation of multi-purpose pathway networks.
- The "Raleigh's Greenway Trail System" in North Carolina, for its rules and safety program.
- The "Pedestrian and Bicycle Data Collection in United States Communities" (2005) for user information.

Through consultation workshops, previously identified issues were reviewed and approved by the interest groups involved. Two workshops, attended by individuals and representatives of organizations responsive to the challenges of pathway network planning, were held in Ottawa and Gatineau in November 2004. These workshops helped evaluate and direct important issues pertaining to the recreational network as well as exploring innovative solutions to further the review process. A summary report of the workshops is given in Appendix 1.

1.3 STRUCTURE OF THE DOCUMENT

This document represents an update of the 1994 Strategic Plan.

Chapter 2 presents an assessment of the last decade's accomplishments since the adoption of the 1994 Strategic Development Plan.

Chapter 3 presents the planning context, the issues and guidelines taken from similar case studies. An overall vision for the pathway network resulting from consultation workshops is then developed, as well as a user profile. This chapter also summarizes foreseeable trends in population evolution and users for the next decade.

THE VISION

Multi-purpose use

- The Capital Pathway network covers the entire Canada's Capital Region. It is a multi-purpose recreational and tourist network, which also supports non-motorized commuting vocations.

Accessibility

- The network extends to and links natural and built areas. Through its layout and design standards, the network ensures encourages a quality user experience and accessibility, emphasizing the recognition of the "green capital", and highlighting symbolic points of interest within the capital. The network provides access to waterways, green spaces, cultural and heritage features while supporting the protection of natural areas and offering a wide range of easily accessible services. User education and awareness programs targeting pathway sharing, in a respectful and tolerant manner, results in a safe and pleasant experience.

Connectivity

- The network, through its linkage with local cycling routes and regional/national trails, is connected to other non-motorized transportation networks within the region to encourage sustainable transportation and forms a key component of Canada's Capital recreational and cycling experience.

Recognition

- The network, as a result of its multi-use vocation, its extensive and far reaching system of pathways and connection with regional, provincial and national trails and pathways within and outside CANADA'S CAPITAL REGION, as well as the quality of the experience is regarded as one of North America's best.

Chapter 4 assesses the marketing undertaken for the network and elaborates ways of optimizing Canada's Capital Region pathway network's tourist potential.

Chapter 5 verifies and improves upon the minimum criteria for design, implementation and maintenance standards devised for the network in 1994. In order to create a uniform standard within the entire Canada's Capital Region network, these criteria are revised and improved in light of current issues.

Chapter 6 addresses safety and proposes ways of improving the user code of conduct already in place. It also recommends a follow-up program for incidents to optimize user safety.

Chapter 7 reviews signage and sets forth approaches for the optimal integration of functional and interpretative information.

Chapter 8 proposes and updates the definition of the pathway network in light of current issues. It defines its vocation and identity, and presents its regional organization according to structural elements in the landscape such as the Greenbelt, Gatineau Park, nodes, origin and destination points, local integration, development priorities and missing links. A network structure that considers other parallel networks as well as a typology is proposed. Lastly, tools to optimize user experience are developed. The pathway network plans are also presented.

Chapter 9 discusses implementation strategies in continuity with the recommendations set forth in the 1994 Strategic Plan, such as the creation of volunteer groups to assist with the management of pathway initiatives, the creation of an inter agency steering committee, as well as the network's implementation, management and maintenance.

Chapter 10 addresses cost estimates per typical intervention.

Chapter 11 deals with environmental considerations, in particular, the strategic environmental assessment.

CHAPTER 2 – 1994-2004 ASSESSMENT

2.1 RECOMMENDATIONS OF THE 1994 STRATEGIC DEVELOPMENT PLAN

The 1994 Strategic Development Plan affirms the recreational pathway network's multi-purpose vocation. The network should mainly serve the needs of recreational users and enhance the potential of natural areas and heritage, cultural and urban sites by making them more accessible to visitors and residents of Canada's Capital Region. The network should also contribute to the symbolism of the National Capital. The following main recommendations were put into place:

- Preserve a multi-use approach for the network.
- Develop basic design and maintenance standards for the entire network.
- Define a code of conduct emphasizing user safety.
- Develop the network's marketing both within and beyond Canada's Capital Region.
- Ensure the strategic plan is used as a major planning tool for various levels of government.
- Establish a permanent committee for the integrated network of recreational pathways formed of NCC representatives as well as municipal and regional partners.
- Develop a tourist map for the network and ensure its integration with other tourism initiatives.
- Implement an adapted marketing strategy.
- Implement an integrated signage program.
- Establish a patrol and volunteer surveillance program.

The approach retained favoured a diversification of experiences resulting from the landscapes encountered on the pathway, reflecting the true nature of the Canada's Capital Region and ensuring a culturally meaningful, visually stimulating environment. The quality of views, landscapes and the pathway's immediate environment are considered in its initial design phase. The various interest points and historical, cultural and heritage elements encountered along the pathway, as well as target user groups are also considerations in a design and planning approach that seeks to optimize pathway quality.

The network is more than just pathways; it is a major corridor that serves as a strategic tool to structure the landscape of Canada's Capital Region. The concept developed in 1994 consists of three concentric rings spreading throughout Canada's Capital Region: the Capital Core, the urban/suburban, and the regional rural/natural zones. Each one of these rings has specific characteristics that appeal to different users and experiences while being closely interrelated.

The concentric network is complemented by major routes, the most important of which is the north-south axis between Gatineau Park and the Greenbelt, the east-west axes along both sides of the Ottawa River, links between both sides of the river, the development of service points and inter-modal links combining various modes of transportation (railway shuttle, river shuttle, public transit system) and the creation of links between network segments and segments of local and regional networks.

2.2 ACCOMPLISHMENTS

Since the adoption of the 1994 Strategic Development Plan, many recommendations were carried out. Accomplishments include the construction of sections contributing to the network's expansion as well as the development and implementation of marketing, safety and management strategies. The main achievements of the last decade include:

- Approximately 50 km of new Capital Pathway segments including key missing links:
  - Brookfield Pathway (Brookfield Road East to Brookfield Road West)
  - Cedar Hill Estates Pathway (from Lyttle to Fallowfield and Cedarview) - 4.25 km
  - Leikin Pathway - Crestway to Holitzer - 0.85 km
  - Crestway Pathway - Prince of Wales to Strandherd - 1.7 km
  - Champlain Bridge cycling lanes - 1.15km
  - Cité-des-jeunes Pathway - 1.2 km
  - Colonnade Pathway (Merivale Arena to Prince of Wales Drive - 2.3 km
  - Conroy Road Pathway (Hunt Club to Walkley) - 2.25 km
  - Des Tembles Pathway - 1.0 km
  - Experimental Farm Pathway (Fisher Avenue connection) - 500 meters
  - Greenbelt Pathway (Green's Creek Sector) - 3.6 km
  - Greenbelt Pathway (Shirley's Bay Sector) - 10 km
  - Island Park Drive cycling lanes - 3.2 k m
  - Leamy Lake Pathway - 1.8 km
  - Mooney's Bay Pathway (from Hog's Back to south part of Mooney's Bay Park) -1.0 km
  - Ottawa River Pathway (Orléans - Greenbelt to Petrie Island) - 6.25 km
  - Ottawa River Pathway (from Kitchissipi to Champlain Bridge) - 1 km
  - Pioneers Pathway (along boulevard de l'Outaouais) - 6.0 km
  - Pioneers Pathway (along St-Laurent boulevard) - 1.8 km
  - Portage Bridge cycling lanes - 700 m
  - Queensway-Carleton Hospital Link (from Carling Avenue to Baseline Road) - 3.0 km
  - Rideau Canal Western Pathway link consolidation - 1.5 Km
  - Rideau River Pedestrian/Cycling Bridge (Rideau River East pathway to old Algonquin College campus)
  - Southern Corridor Pathway (between Prince of Wales and Merivale) - 2.0 km
  - Ruisseau de la Brasserie Pathway - 2.6 km
  - Rivière Blanche Pathway - 1.1 km
  - Rivière du Lièvre East Pathway - 1.8 km
  - Sussex Drive cycling lanes - 1 km
  - Terry Fox Drive Pathway - 1.0 km
  - Trans Canada Trail (Railway Corridor from Bells Corners to Carleton Place) - 31 km
  - Voyageurs Pathway (Brébeuf Park) - 500 meters

- Voyageurs Pathway (Gatineau sector) - 2.5 km
- Voyageurs Pathway (Jacques-Cartier Park) - 800 meters
- West Hunt Club Pathway (from Cleopatra Drive to Riverbrook) - 5.5 km
- Woodroffe Avenue Pathway (from Fallowfield Road to West Hunt Club) - 4.0 km

- Improvement and reconstruction of over 100 km of pathways (widening to 3 m, resurfacing, etc.).
- Establishment of a "Permanent Committee on the Integrated Network of Recreational Pathways".
- Initiation of an intensive marketing strategy, including the development of a visitor map of the network, and an interactive website.
- Development and implementation of an integrated signage and way finding system.
- Implementation of safety enhancement initiatives.
- Establishment of the volunteer patrol program in Ottawa and Gatineau.

2.2.1 Marketing

A strategic marketing plan for the "Integrated Network of Recreational Pathways" was developed in 2003-2004 by the NCC. The strategic plan promoted a two-part concept: to create a flawless user experience and provide a high quality product. The main elements of this strategic plan were as follows:

- Promoting the pathway network as a renowned cycling destination.
- Identifying target customers and determining the principal development guidelines for the products as well as identifying appropriate partnerships.
- Marketing a "flawless user experience": the off-road continuity of the network, the beauty of the routes, changes in scenery and harmonious integration of authentic attractions, a warm welcome, the route's safety, the quality of service at all times and the absence of noise and visual pollution.

2.2.2 Standards

Guidelines were developed in order to standardize installations:

- Design standards : setbacks, surface treatments, slopes, pavement markings, signage, lighting and rest areas;
- Implementation standards: right-of-way width, route and location;
- Maintenance standards: structures, snow removal, maintenance and vegetation.

2.2.3 Safety Concerns

Safety considerations tabled in 1994 are as follows:

- Revision and implementation of a comprehensive code of conduct for the network.

- Seek agreement amongst partners on regulations ensuring user safety on the network.
- To coordinate monitoring efforts among the partners to ensure rules and the code of conduct are obeyed.
- To design an education and user awareness program.
- To install an emergency communication system along the pathways.
- To ensure the network's regular maintenance.
- An increase in the network's use, (walking, cycling, rollerblading, etc.) and user behaviours (faster traveling speeds, slower speeds with stops, individual users, group users, workout use, tourists, loitering, etc.) raises the risk of conflict within the network. Nowadays, conflicts arise particularly among high speed cyclists, rollerbladers and pedestrians walking on the left side of the pathway, as well as dog walkers not obeying the rules applying to domestic animals on the pathway.

The network's multi-purpose vocation and physical restrictions on widening encourage user education through a code of conduct that promotes shared use.

The code of conduct currently in use emphasizes a multi-purpose network available to all types of users while specifying the appropriate user behaviour for the harmonious, safe use of the pathways such as:

- Sharing the pathway and responsibilities.
- Behaviour of pathway users.
- Courtesy at intersections.
- Respect for the environment.
- Rules pertaining to domestic animals.

In 2003-2004, safety was the subject of a thorough study and discussion for the recreational pathways. Various measures were retained to ensure increased user safety including: more pathway patrolling, adapted signage and safety measures at all access points to the network, cell phone loans, the expansion of the volunteer patrol program on the network, increased maintenance of vegetation at strategic locations and a public awareness campaign including the direction to the NCC of all calls relative to pathway incidents.

2.2.4 Signage

The sign program had several objectives, namely:

- Highlighting important tourist attractions related to the discovery of Canada's Capital Region.
- Wayfinding according to interest points and at points of interest.
- Wayfinding according to direction, distance and access at various locations and points on the network.
- The creation of an identity and a visibly attractive image for Canada's Capital Region recreational network.

- Developing a uniform signage and wayfinding system throughout the network.

The signage program includes directional signs, regulation signs, regional maps and various road safety and traffic signs. It integrates the following elements:

- Strong and uniform visual identification throughout the network;
- Pathway identification by name with historical or geographical reference;
- A logo and a distinct name for the network (use of color and particular symbols) - the network is currently identified as: "CAPITAL PATHWAY" with a specific logo.

2.2.5 Implementation

Various forms of innovative partnerships were put forward in order to encourage public, private and community involvement to reduce the financial burden on public organizations. The following actions were considered:

- Integrating the concept into the official plans of the various levels of government involved.
- Developing a business plan for the network.
- Identifying partners to assume responsibility for the network's development.
- Developing financial partnership formulae with the various levels of government.
- Working with private sector and community groups for fund raising, maintenance drives, patrols, etc.
- Creating a network committee (permanent technical committee) of key representatives from the current partners and other potential partners.

The establishment of the permanent technical committee in 1994 was one of the main accomplishments in the implementation of the capital's pathways. This committee, formed of representatives from the NCC and partner municipalities, contributed to the maintenance and development of the network over the last decade and coordinated the interventions related to the pathway network. However, with only four meetings per year, the committee's actions were limited. The private sector and community groups' involvement in pathway patrol must also be mentioned.

CHAPTER 3 – CONTEXT

3.1 OBJECTIVES :

- Position Canada's Capital Region pathway network relative to the region's approved development plans. Identify the target clientele using the network.

3.2 PLANNING CONTEXT

Many institutional, governmental, and municipal entities are located within Canada's Capital Region namely: the NCC, the City of Gatineau, the City of Ottawa, the municipality of Chelsea, the MRC les Collines de l'Outaouais, the Breckenridge sector of the MRC de Pontiac the township of Russell, as well as Prescott, Russell and Lanark counties. In the current review of the 1994 strategic development plan, the NCC is collaborating with two main partners: the cities of Gatineau and Ottawa. Other municipal and regional entities will assume an advisory role in the review process.

The City of Gatineau, following the January 2002 mergers, includes the Hull, Aylmer, Masson-Angers, Buckingham, and Gatineau sectors. Following recent mergers (January 2001), the City of Ottawa encompasses nearly all of the Ontario part of Canada's Capital Region. The former communities of Nepean, Gloucester, Cumberland, Kanata, Osgoode, West Carleton, Rideau, Rockcliffe Park, Vanier and Goulbourn now form an integral part of the new City of Ottawa.

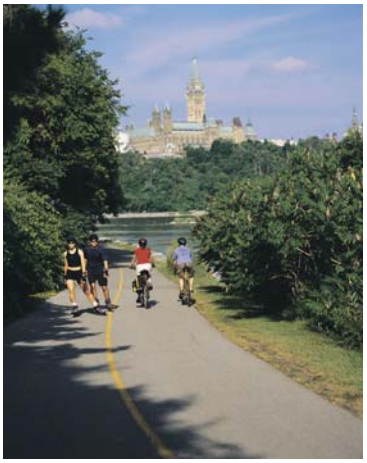
Despite the diversity of management structures, governmental institutions and regulations, it is important to maintain an overall vision as well as unity and uniformity within Canada's Capital Region's network of pathways. The guidelines developed in this strategic development plan should, in fact, be incorporated into the planning mechanisms of the regional and municipal governments. These recommendations will become an important component of the MRC *les Collines de l'Outaouais'* and Chelsea's development plan and required elements of the Official Plan and urban master plans of the cities of Gatineau and Ottawa. In order to become an official planning document, the revised strategic development plan must be approved by the NCC and the cities of Ottawa and Gatineau.

This document is in continuity with various development plans for Canada's Capital Region, in particular:

- The Plan for Canada's Capital emphasizes the importance of the network and its interconnectivity with other existing networks in the region. It sheds light on constraints such as missing links that impede the network, in particular within the Capital Core. The plan also recommends increasing the services available along the pathways.
- The Core Area Sector Plan highlights the importance of Confederation Boulevard and the Ottawa River, and their interconnection with the pathway network. The plan also emphasizes the necessity of completing missing links.
- The Official Plans and Cycling Plans for the cities of Ottawa and Gatineau integrate and adapt the pathway network as presented in 1994. These plans are important strategic documents for the development proposals presented in the revised strategic plan.

- Canada's Capital Region's Transportation Development Plan.

3.3 THE ISSUES



A review of documentation relevant to understanding the pathway network shed light on many issues such as its vocation, layout concept, design standards, safety, signage, marketing, implementation and environmental integration. Consultation workshops held in November 2004 allowed these issues to be further elaborated. The principal issues in the strategic plan review are as follows:

- Protecting the network's multi-purpose vocation and its integration with the utilitarian networks.
- Improving the network's overall structure to ensure comparable service throughout Canada's Capital Region. For example, Gatineau's eastern sector is currently underdeveloped.
- Developing the network within sectors which are not been yet serviced and interconnecting the two shorelines.
- Optimizing the existing network within the Capital Core through planning and the completion of missing links.

- The network's accessibility and connection with residential communities, sectors of employment, tourist attractions and other networks having distinct vocations, etc.
- Access to waterways, wetlands and other natural elements.
- Maintaining the quality of user experience as a distinct network element.
- The development of major regional axes in rural zones to alleviate congestion in the Capital Core and enhance attractions located in the surrounding zones.
- The standardization of interventions in order to develop and adapt consistent quality throughout the network for the enhancement of cultural, heritage, physical and landscape qualities of each region.
- Safety concerns and shared pathway use.
- The development of a quality tourist product recognizing the "Green Capital" as a cycling destination where the visitor will have a meaningful and memorable experience.
- The development of an efficient implementation tool for the strategic plan.
- The Capital Pathway network's contribution towards active green transportation in Canada's Capital Region.

3.4 BEST PRACTICES/ INNOVATIVE SOLUTIONS

A review of the literature and an analysis of pertinent case studies allowed for a comparison of recreational pathway planning issues and identified innovative approaches. Some of the approaches and strategies that may help to better position the pathway network are:

Marketing and promotion :

- A public education and marketing program detailing the economic, environmental, social, and quality of life advantages related to adopting an active lifestyle is in effect in Seattle and demonstrated by the "Grand Concourse Authority" in St. John's, Newfoundland.
- The "Smart Travel" individualized marketing program developed in Great Britain which generates public awareness of walking, cycling and using public transit. The program's strategy aims to make individuals more aware of their choice of daily transport and the alternatives available. For strategic purposes, the motivation behind individual choices is at the individual's discretion, and as such, this awareness program does not refer to the health or environmental benefits that result from walking or cycling. This program has contributed to a significant reduction in automobile use (up to 15% of trips in 2003-2004).

Security and maintenance:

- The City of Seattle integrates aspects and rules of pedestrian and bicycle safety into its driving schools. The City has developed an awareness program for cyclists and pedestrians encouraging sensible behaviour leading to optimal safety conditions.
- The City of Denver has developed and implemented a preventive maintenance program for its pathway network based on user safety. Safety is the central element in all network interventions and maintenance operations, and a predetermined maintenance schedule is developed based on user safety. This maintenance schedule includes regularly documented inspections whose frequency is based on the level of use, the geographical and physical location of the pathway, as well as its age and type of infrastructure. Volunteer collaboration is used to identify non-functioning elements requiring immediate intervention. Snow removal operations are carried out after every snowfall and particular care is given to de-icing curves.

Vocation :

- The Seattle and Portland recreational networks were developed along an active transportation approach that contributes to the preservation of environmental quality. Residential developments, shopping centres, parks, green space and schools are included as part of the pathway network to encourage its daily use;
- The City of Waterloo's pathway network has a two-level structure :
  - The primary level is the backbone that ensures links between origin and destination points;
  - The secondary level ensures links between this backbone and neighbouring sectors.

Implementation:

- Several entities share responsibility for the implementation of Seattle's network:
  - The City is primarily responsible, as the network is developed on city lands;
  - Transportation agencies are responsible for intermodal links and interrelationships with roadway networks;
  - Private developers are responsible for providing access to new developments.
- The City of Portland has established a public/private partnership responsible for financing, land acquisitions and special projects. Construction funding is frequently available for pathways managed by the City. Citizens groups and local organizations participate in pathway layout and network maintenance near their homes (seasonal cleaning). The "Grand Concourse Authority" in St. John's, Newfoundland and the City of Calgary have adopted similar strategies.

The state government of Oregon (Oregon Parks and Recreation Administration) has established a fund for preliminary studies, acquisitions, construction, signage and maintenance of state networks.

3.5 USERS

Demographic forecasts for the Ottawa/ Gatineau region foresee a population growth of 48% for 2021. In 2004, the population of Canada's Capital Region was 1 142 700; according to established forecasts, this figure should reach 1 500 000 and more in 2021.

In 1994, tourists were selected as the target users of the network. The network is strategically connected to the Capital Core, an area of great tourist attraction. The Capital Core is the fourth most popular tourist destination in the country, after Toronto, Montreal and Quebec. The number of visitors to the Capital Core should increase by roughly 1% per year to reach approximately 7 million visits in 2021.

However, a survey carried out in 1999 established that 13% of the network's users were tourists, while 85% of the users were residents of Canada's Capital Region. The network is therefore used for recreational and utilitarian purposes by a greater number of residents than tourists.

Tables 3.1 and 3.2 show a comparison of the statistical data from the 1993 and 1999 surveys and reveal the following observations:

- The proportion of cyclists has almost doubled between 1993 and 1999, from 34% in 1993 to 56% in 1999, while the proportion of pedestrians decreased slightly from 45% to 30% of users in 1999;
- Cycling represents one half of the users, however, it is more popular in the urban/ suburban and rural rings than in the Capital Core;
- Since 1993, there has been an increase in the different types of users on the network, notably a higher presence of in-line skaters, joggers and wheelchair users. The proportion of in-line skaters is greatest in the urban/suburban zone (15 %).

TABLE 3.1: Trip Purpose According to User Type

	Residents (85 % of users)	Tourists/ Visitors (13 % of users)
Recreation	52%	60%
Exercise	30%	13%
Commute	8%	2%
Tourism	2%	14%

Source : Price Waterhouse Coopers, 1999

TABLE 3.2: Use of the NCC Pathway Network, According to Area* and User Type

User type	1993	1999		
		Core	Urban /Suburban	Rural/ Natural
Pedestrians	45%	27%	18%	8%
Cyclists	34%	62%	63%	83%
Rollerbladers	N/a	7%	15%	6%
Joggers	N/a	4%	3%	3%
Wheelchairs	N/a	0	0	0

Source : Price Waterhouse Coopers, 1999

According to a Price Waterhouse Coopers survey of 2 267 individuals carried out in 1999:

- 497 000 users or 59% of overall residents (16 years and older) used the pathways within the 12 months preceding the survey;
- Local users visit the network 1.7 times per week on average, for an approximate total of 17.5 million visits per year. It is estimated that commuters, who account for 8% of users, use the pathways an average of eight (8) times per week, accounting for 6.7 million or 38% of the visits.

Over the next decade, several trends and factors indicate an increase in non-motorized trips for recreational or utilitarian purposes as well as changing user needs and behaviours.

The age factor:

- According to Statistics Canada, the segment of Canadians in the 65 and older age group will increase from 12.7% in 2001 to 16.6% in 2016 and 21.4% in 2026. The 65 and older age group currently represents only 7% of users. However, the anticipated demographic changes could influence the number of people in this age group using the recreational pathway network over the next decade, as this category is increasingly practicing a more active retirement. This demographic growth would indicate a probable increase in the number of pedestrians (walkers) and the

* Refer to Section 8.3 for definitions of each area.

possible use of assisted-mobility devices such as wheelchairs, electric bicycles and tricycles;

- A study on physical activity and population weight in Canadian urban areas carried out by the Canadian Studies Association reveals that Ottawa area seniors are among the most fit in the country. This characteristic may be linked to the unique quality of the City's active green transportation network, an environment that promotes an active lifestyle and the awareness of the population's well-being.

The behavioural factor:

- User behaviour depends, among other things, upon trip purpose, skill level and age group. A more experienced user is therefore more likely to have a functional purpose or make a long distance trip using the on-road networks. A less experienced user is more likely to have a recreational trip purpose, make shorter trips and will have a tendency to use the pathways in urban or suburban areas. Cyclists using the bicycle as a means of non motorized transportation are also more likely to make longer recreational trips.

The environmental factor :

- The population's awareness of environmental problems, the exhaustion of non-renewable resources, support for sustainable development principles, and the signing of the Kyoto Protocol for the reduction of greenhouse emissions encourage the use of alternatives to motorized transportation;
- Government agencies and municipalities are promoting non-motorized green transportation.

The health factor :

- A growing interest in health, advertising campaigns encouraging physical activity as part of the daily routine; an awareness of weight gain and obesity and their increasing social costs encourage the use of the pathway network.

IN SUMMARY:

The strategic development plan for the capital pathway network is supportive of the various studies and development plans and Official Plans adopted by the NCC and its partners.

Over the next decade, many factors foresee an increase in the use of pathways for recreational or functional purposes as well as changing user needs and behaviours:

- The age factor would foresee a potential increase in the number of pedestrians (walkers) and the use of wheelchairs, electric bicycles and tricycles;
- The behavioral factor, which includes trip purpose, skill level and age group;
- The environmental factor encouraging the use of less polluting means of transportation;
- The health factor promoting physical activity as part of the daily routine and encourage the use of the pathway network for recreational purposes.

3.6 PUBLIC CONSULTATION

More than 80 Interest Groups from various fields of interest were invited to workshops held on November 17 and 18, 2004. The primary objective of the workshops was to seek the assistance of Interest Groups in identifying key issues and challenges which must be addressed in the Strategic Plan update as they relate to key themes such as network vocation, design standards, user needs, promotion, etc.

Two public consultation sessions were held on November 23 and 24, 2005. The consultation objectives were as follows:

- To present a draft of the Strategic Plan to recreational pathway network users, various partners and agencies of the affected areas and the general public;
- To provide an opportunity for participants to ask questions and express their opinion and expectations regarding the study's overall vision;

- To present the decisional process and major steps to be taken with regard to this study.

The following is an analysis of comments ensuing from the public consultations:

- Most participants in the public consultation favor a multi-use pathway network that encourages recreational and utilitarian use, that is integrated, accessible and in harmony with nature. The surface should be wide and smooth to encourage multiple uses.
- The positive aspects most often mentioned are the expanse of the network, its proximity to nature and waterways, the numerous routes available, its cleanliness and the beauty of the scenery and landscapes.
- When asked about the network in general, the highest ranked priority by participants is the completion of missing links in the current pathway network in order for users to benefit from a continuous network. Participants also favor the rehabilitation and restoration of the actual network in order to maintain or enhance the quality of the user experience, with an equal mention for the construction of new pathways in order to expand the network throughout Canada's Capital Region.
- Finally, with regards to design and maintenance standards, participants favor the improvement of the maintenance and rehabilitation program for the network. The expansion and improvement of user services was also identified as important followed by the review and improvement of present design standards to ensure user safety.

CHAPTER 4 – MARKETING AND COMMUNICATION

4.1 OBJECTIVES

To increase the network's visibility and use among resident and visitors.

4.2 DIRECTION

To develop a marketing plan for the pathway network and its outdoor experience that heightens Canada's Capital Region's visibility and influence as a source of pride, identity and unity for Canadians. In particular, enhance the image of Canada's Capital as a leader in promoting active lifestyles, safety, environment, sustainable transportation and recreation, in short, promoting a better quality of life.

- Active lifestyles : promote the benefits of physical activity to maintain and improve health while considering the social benefits of an active population with better overall health.
- Safety : Raise user awareness of safe behaviour and conduct to reduce the risk of accidents and unfortunate or regrettable incidents (see Chapter 6 - Safety).
- Environment and sustainable green transportation : Acknowledge conservation efforts and green space design throughout Canada's Capital Region and encourage the use of alternative means of transportation such as cycling, rollerblading or walking to improve air quality and contribute to slow climate change.
- Recreation : Emphasize the scale and quality of the pathway network, its natural and cultural interpretative elements as well as its proximity to numerous attractions.

This strategy also addresses the following goals:

- Target residents and tourists and identify their respective benefits. Other categories, based for example, on the type of activity, age or geography, will be targeted according to circumstances;
- Favour the establishment of partnerships in the marketing strategy;
- Favour the inclusion of the strategic plan in various local, regional and national tourism documents.

IN SUMMARY:

Enhance the role and image of Canada's Capital as a recreational destination in Canada and leader in promoting active lifestyles, safety, sustainable green transportation and recreation.

CHAPTER 5 – STANDARDS

5.1 OBJECTIVES

To create continuous, uniform and safe pathways throughout the network through the application of similar standards adaptable to specific contexts.

5.2 DIRECTION

Design, layout and maintenance standards represent minimum criteria which allow planners and designers flexibility in the network planning process. Each partner shall be responsible to apply the minimum standards defined below when designing, implementing and maintaining pathways within its jurisdiction.

Table 5.1 lists the recommended performance criteria required for design, layout and maintenance standards. These standards are based on a travel speed of 15 to 20 km/h, an average cycling speed, and fall within the regulations currently in effect for the pathway network. The following elements are modified with respect to the initial standards set forth in 1994:

- Separate pathways (for cyclists and pedestrians) on heavily utilized bridge crossings could be considered where infrastructure width permits. The link crossing the Alexandra Bridge is an example of such a layout.
- In rural areas, wherever the creation of a separate corridor is not possible, a designated lane reserved for cycling and pedestrian use on secondary roads with lower speed limits and less traffic is recommended to facilitate network connectivity.
- Application, wherever possible, of appropriate standards and policies regarding accessibility.
- To ensure the personal safety of users, vegetation management strategies should include the elimination of dense thickets close to the pathways and along their perimeter wherever possible.
- The use of distinctive markings along the pathway network, while preserving the center line concept, in order that users may effectively distinguish the multi-purpose Capital Pathway Network from other networks.
- The standardization and harmonization of regulatory and safety signage on pathways ensure easy recognition by users.
- The installation of signage for tourist circuits (self-guided or thematic routes) as well as interpretation.
- Intersection layout criteria for roadway networks and/or other bicycle or multi-functional networks.
- Restricting lighting to the busiest urban sectors and along segments identified as part of a pedestrian circulation network providing access to such services as schools, community facilities and transit stops.
- Rest areas proposed every 5 km in the urban/suburban conceptual ring and every 10 km in the regional - rural/natural ring. In the Capital Core Ring, rest areas will coincide with points of interest and as needed.

- Installation of public washroom facilities along the network should be considered where possible and feasible. Alternatively, users should be directed to existing facilities adjacent to the network.
- A buffer zone between the pathway and neighbouring residents, as well as between waterways, wetlands and designated natural areas.
- Highly visible trail markers must be placed on the pathway sections recommended for winter activities in the regional – rural/natural ring to ensure their visibility.
- Improving the preventative maintenance program of the network to ensure prompt repairs. A predefined maintenance schedule depending on the pathway's level of use, its location, age and type of infrastructure should be followed to ensure user safety and comfort.
- Avoiding service vehicle movement on pathways during periods of thaw in order to minimize pathway damage.
- A vegetation control program to ensure user safety that maintains a minimum 1,5 m clear shoulder on both sides of the pathway.

TABLE 5.1 : Minimum Standards

Criteria	Conceptual Ring	Minimum Standard
Design Standards		
Horizontal Clearance	Capital Core	▫ Minimum of 3 m ▫ 4 to 4.5 m along heavy use areas ▫ Separate two-lane pathways (cyclists and pedestrians) on heavily used bridge crossings where possible
	Urban / Suburban	▫ Minimum of 3 m
	Regional – rural / natural	▫ Minimum of 2.5 m (shared roadway) ▫ 3 m in own corridor
Lateral Clearance	All	▫ Allow a 1,5 m lateral clearance on each side of the pathway surface. Exceptions may occur in certain situations
Vertical Clearance	All categories	▫ Minimum of 3.5 m for aesthetic and security reasons, as well as to allow maintenance vehicle access
Surface	Capital Core	▫ Hard surface
	Urban / Suburban	▫ Hard surface. Greenbelt Pathway: semi-hard surface
	Regional – rural / natural	▫ Hard or semi-hard surface
Steepness of Inclines	All	▫ Respect universal accessibility design standards, wherever possible. Slopes lower than 5% are recommended ▫ Incorporate stopping points on steeper inclines ▫ Transverse slope : Minimum 2% maximum 3%
Centerline	Capital Core	▫ Continuous marking on pathways
	Urban / Suburban	▫ Continuous marking on pathways
	Regional – rural / natural	▫ Continuous marking within designated corridors
	All	▫ The use of a distinctive pavement marking to allow the user to distinguish the multi-use Capital Pathway network from other pathways or networks
Sight Distance	All	▫ Along curves and inclines, maintain a sight distance that takes

TABLE 5.1 : Minimum Standards

Criteria	Conceptual Ring	Minimum Standard
		the travel speed into account ▫ Ensure user safety through vegetation management which discourages dense thickets close to the pathway edges
Accessibility	All	▫ Application, wherever possible, of appropriate standards and policies regarding accessibility.
Signage	Capital Core	▫ Self-guided tour signage ▫ Orientation and user code of conduct signage ▫ Regulatory and safety signage ▫ Tourist information ▫ Interpretation signage ▫ Universal symbols or bilingual ▫ Standardized road signage
	Urban / Suburban	▫ Interpretation signage ▫ Orientation and user code of conduct signage ▫ Regulatory and safety signage ▫ Universal symbols or bilingual ▫ Standardized road signage
	Regional – rural / natural	▫ Interpretation signage ▫ Orientation and user code of conduct signage ▫ Regulatory and safety signage ▫ Universal symbols or bilingual ▫ Standardized road signage
Treatment of Intersections	Capital Core	▫ Signage and traffic lights at the busiest intersections ▫ Surface treatment modifications ▫ Visual clearance of the intersection
	Urban / Suburban	▫ Signage ▫ Surface treatment modifications ▫ Visual clearance of the intersection
	Regional – rural / natural	▫ Signage ▫ Surface treatment modifications ▫ Visual clearance of the intersection
Lighting	Capital Core	▫ Lighting in the busiest urban sectors and along segments identified as part of a pedestrian circulation network providing access to such destinations as schools, community facilities and transit stops may be warranted
	Urban / Suburban	▫ Lighting along segments identified as part of a pedestrian circulation networks providing access to such destinations as schools, community facilities and transit stops may be warranted
	Regional – rural / natural	▫ No lighting
Rest stops	Capital Core	▫ Every 2 km (minimum) and according to points of interest along the network ▫ Install drinking fountains and bicycle racks where feasible ▫ Minimal amenities: benches , waste receptacles, signs
	Urban / Suburban	▫ Every 5 km minimum and according to points of interest along the network ▫ Install drinking fountains and bicycle racks where feasible ▫ Minimal amenities: benches , waste receptacles, signs

TABLE 5.1 : Minimum Standards

Criteria	Conceptual Ring	Minimum Standard
	Regional – rural / natural	▫ Every 10 km minimum and according to points of interest along the network ▫ Minimal amenities: benches , waste receptacles, signs
Construction Requirements (Overpass and Tunnels)		▫ Footbridges: Railings 1.4 m minimum height and 3 m minimum width ▫ Tunnels: 5.5 m minimum width and 3 m minimum vertical clearance, ideally built in a straight line (exit visible from the entrance) ▫ Lighting as needed
Standard Implementation		
Width of Pathway Corridor	All	▫ Varies according to availability. A minimum 6 m clearance on both sides of the pathway clearance is recommended. The width of the pathway corridor should be increased where possible within natural corridors and rural sectors ▫ A buffer zone between the pathway and neighbouring residents, as well as between waterways, marshes and designated natural areas ▫ Ensure a sufficiently wide right-of-way when corridor is shared with equestrian trails and/or infrastructure such as roadways or railways
Layout/ Alignment	All	▫ Preferably sinuous ▫ Curves which consider the average travel speed
Location	Capital Core	▫ Distinct pathway whenever possible ▫ On sidewalks where necessary with special design considerations ▫ Within parks and open spaces ▫ On road, for pathway links, if no other option is possible
	Urban / Suburban	▫ Distinct pathway whenever possible ▫ On sidewalks where necessary with special design considerations ▫ Within parks and open spaces ▫ On road or shoulder as a dedicated bike path / bike lane. ▫ Distinct pathway within roadway or transit corridor where necessary ▫ Along shared roadways by exception
	Regional – rural / natural	▫ Distinct pathway wherever possible ▫ Shared road or shoulder and on road cycling lanes ▫ Distinct pathway within roadway or transit corridor where necessary ▫ Take advantage of major visual corridors
	All	▫ Ensure that the pathway network is implemented in locations and sites that are attractive and offer varied user experiences
Maintenance Standards		
Structure	All categories	▫ Ensure that the structural capacity of pathways allows maintenance vehicle access
Snow Removal	Capital Core	▫ Maintain pathway segments in accordance with approved winter clearing program.
	Urban / Suburban	▫ Install trail markers on the pathway sections approved for winter use

IN SUMMARY:

Design, layout and maintenance standards represent minimum criteria and allow planners and designers with a certain flexibility in the network planning process. Performance criteria are recommended to meet the proposed design, layout and maintenance standards.

The Capital Pathway Network pursues its universal accessibility policy and establishes criteria pertaining to self-propelled electrical vehicles.

TABLE 5.1 : Minimum Standards

Criteria	Conceptual Ring	Minimum Standard
	Regional – rural / natural	▫ Install trail markers on the pathway sections approved for winter use
Maintenance	All categories	▫ Improve the preventative maintenance program of the network to ensure prompt repairs ▫ Avoid vehicular circulation during periods of thaw in order to minimize any damage to pathway infrastructure
Vegetation	All	▫ Develop a vegetation control program for user safety that maintains a 1.0 meter clearance on both sides of the pathway and a 4 meters vertical clearance ▫ Wherever possible, develop an integrated management strategy encouraging the diversification of vegetation and use of native species

CHAPTER 6 – SAFETY

6.1 OBJECTIVES

To ensure user safety through the improvement of existing mechanisms and strategies.

6.2 DIRECTION

Integrated safety criteria:

The practice of integrating safety criteria in the planning and design process should be continued in order to develop a safe network in urban as well as rural areas and to ensure that pathway safety requirements are appropriately analyzed. Inspired by strategies developed in *Crime Prevention Through Environmental Design*, and in accordance with pathway construction and layout standards in effect, evaluation grids should address such elements as:

- Avoiding potentially dangerous situations such as dead-ends, dense vegetation along the pathways, isolated areas and narrow corridors.
- Increasing access points along the pathways and favor links within the networks.
- Installing lighting in priority sectors of the Capital Core and in specific areas of the urban/suburban ring where pathways are identified as part of a pedestrian circulation network providing access to destinations such as schools, community facilities, transit stops, etc. May be warranted and should be evaluated as to specific requirements.
- Technical information relative to the pathways, such as : the type of surface, steepness of inclines, in particular those which are greater than the proposed and/or recognized standards, particular landscape characteristics surrounding the pathway. This information could also be shown on tourist maps and integrated into pathway signage.

Improve the prevention program :

The existing prevention program and incident follow-up includes site investigations, safety audits, and the implementation of appropriate corrective measures to improve the network's safety. This program could be improved through:

- Consolidating collaboration with volunteer organizations and groups across the network to facilitate the communication of maintenance and safety problems on the network;
- Establishing a better dialogue with the institutions, companies, organizations and businesses bordering the network so that they may assist in network monitoring and report problem observed, thus contributing to the network's local appropriation;
- Promoting the expansion of the volunteer pathway patrol program across the network.
- Maintaining coordinated efforts with police services and special interest groups.

- Advising the public not to use the network at night, particularly unlit segments, and promote alternative routes where possible.

Promote the code of conduct:

Continued promotion of the user code of conduct that applies to all network users with emphasis on pathway sharing and the development of a shared pathway awareness program addressing the following elements:

- Pathway sharing, tolerance and courtesy.
- Caution while on the network.
- Basic safety notions: stopping distances, hand signals, using a bell, etc.
- The promotion of designated on-road cycling facilities for non-recreational commuter travel.

Review the pathway code of conduct on a periodic basis in view of ensuring continued user safety.

IN SUMMARY:

- Integrating safety criteria into the analysis structure used in the planning and design process.
- Improving the prevention and follow-up program for incidents including inquiries and correction measures.
- Continue promoting the user code of conduct to emphasize pathway sharing.

CHAPTER 7 – SIGNAGE

7.1 OBJECTIVES

To improve and complete the existing signage system by emphasizing wayfinding and interpretation programs at the various points of interest encountered along the corridor, and enhance regulatory signage where required to ensure user safety.

7.2 DIRECTION

Information pertaining to wayfinding across the network should be improved, and include such criteria as the identification of cross streets, landmarks or distances to the next destination. Appropriate interpretive signage should be installed along the network. Regulatory signage should also be standardized and harmonized. Guidelines for this particular type of signage are as follows :

- Signs which require more attentive reading should be installed a slight distance away from the pathway. The layout of these signs could coincide with smaller rest areas located at strategic points along the network which take advantage of interesting viewpoints or other particular characteristics of the landscape.
- Regulatory and safety signage such as stop, warning, yield, etc., should be based on provincial and national guidelines.
- Signs should continue to integrate visible marketing elements to promote the identity and the image of the recreational network.
- Improvement to the signage system should ideally contribute, wherever possible, to a reduction in the quantity of signs encountered on the pathway.
- Signs should contain the following information:
  - Information on the types of surfaces, steepness of inclines and the landscape characteristics of the pathway surroundings;
  - Promoting the development of a cultural, historical, natural and/or heritage interpretation program for the network.

Use of an adapted signage system:

- Review and improvement of safety signage according to standards set by reference organizations such as Vélo Québec and the Transportation Association of Canada;
- Improvement of the network's wayfinding system by showing strategic elements such as the location of bicycle rental and repair centers as well as the closest service centers.

IN SUMMARY:

- The improvement of wayfinding and interpretative information:
  - Integrate signs with rest areas.
- Use of an adapted signage system.

CHAPTER 8 – THE PATHWAY NETWORK

8.1 OBJECTIVES

- Complete important missing links within the urban Core and ensure the appropriate and timely life cycle rehabilitation of existing network segments.
- Complete and reinforce a coherent and integrated network of pathways across Canada's Capital Region.
- Maintain the network's multi-purpose vocation and increase pathway connectivity.
- Facilitate access to waterways, green spaces, cultural, recreational and leisure destinations, villages and communities as well as improve upon elements that enhance the user experience.

8.2 THE NETWORK'S APPROACH

The network is defined according to the following three principles:

An integrated multi-purpose network :

- Network sharing by a number of users with different modes of transportation for different reasons remains a defining principle of Canada's Capital Region pathway network. The following guidelines help shape this main principle:
  - The continued promotion of the code of conduct applying to all users (see Chapter 6 – Safety);
  - Connections with municipal and national networks in order to improve the overall regional network;
  - The integration of utilitarian functions while preserving an approach that favors the enhancement of points of interest and the quality of user experience.

A network that enhances elements of interest within the Capital:

- A network that links and enhances historical, archaeological, symbolic, cultural, recreational and urban points of interest as well as visitor attractions and heritage elements while encouraging their interpretation. The network maintains an approach that enhances significant points of interest within the Capital. Particular care will be taken to develop an interpretative program along the Capital pathway network (see Chapter 7- Signage);
- A pathway network that is an integral part of the green space and waterway networks of Canada's Capital Region and which contributes to the protection of ecosystem biodiversity through corridors resulting from pathway connections.

A network dedicated to the quality of user experience:

- The quality of user experience on the Capital Pathway network is one of its defining characteristics. This essential quality distinguishes it from

networks with a more utilitarian vocation. Section 8.5 further outlines the strategy proposed to optimize the quality of user experience throughout the Capital Pathway network.

8.3 REGIONAL STRUCTURE

The conceptual approach retained considers Canada's Capital Region's geopolitical structure and fluidly integrates it throughout the region, thereby resulting in:

- Three conceptual rings representing central, urban and rural zones that embody the particular characteristics that have shaped the network:
  - The Capital Core ring;
  - The urban/ suburban ring;
  - The regional rural/ natural ring.
- Access routes that ensure strategic links throughout the network's structure.
- Connectors and links that integrate other regional elements.
- Service points that improve the quality of user experience.

Figure 8.1
Conceptual diagram

The Table 8.1 describes the main characteristics of the proposed conceptual rings.

8.3.1 The Capital Core Ring

The Capital Core ring forms the heart of the Capital Pathway network. In Quebec, it includes Leamy Lake Park, Brewery Creek and the Ottawa River. In Ontario, it encompasses the Rideau Canal, the Parliamentary Precinct, LeBreton Flats and Rockcliffe Park.

The pathway network is closely linked to the Capital Core waterways and the parliament hill escarpment. It follows the Ottawa and Rideau rivers, the Rideau Canal, Brewery Creek and the parliament hill escarpment as well as connecting all the Capital Core parks and the majority of urban green spaces within the Core. Links between riverbanks exist through the Alexandra and Portage Bridges and are proposed using the Prince of Wales Railway Bridge and the Chaudière Bridge.

The Capital Core has the greatest concentration of national points of interest as it features Parliament Hill and houses the official buildings of the federal government. The Capital Core is also the stage for important cultural events such as Canada Day celebrations, Winterlude and the Canadian Tulip Festival. This combination of events and points of interest has great appeal for tourists, the target group within this ring.

The pathways within the Capital Core ring are well used. The sectorial plan for the Capital Core (2005 Draft) emphasizes that network continuity is still lacking along certain segments as a result of missing links which detract from the overall user experience. These missing links are the stumbling blocks of the network within the Capital Core. The completion of these segments would complete the network and ensure more efficient movement through this sector thereby optimizing the network's performance within the Capital Core. Among the links that remain to be established are segments along Sussex Drive North and the Voyageurs Pathway in downtown Gatineau. The following list outlines key missing links that require completion within the Core Area:

- Sussex Drive between Wellington/Rideau and Rockcliffe Park (on-road cycling facilities).
- Voyageurs Pathway between Eddy Street and Portage Bridge.
- Consolidation of the link along Rideau Canal on NAC property.

Other proposed pathway initiatives within the Core Area include:

- Links crossing Chaudière and Victoria islands.
- The Bank Street extension to the Ottawa River Pathway (Parliament Hill).
- Lady Aberdeen Bridge crossing the Gatineau River.
- Somerset pedestrian Bridge to be completed in 2006.
- A continuous link south of the Domtar industrial complex in Gatineau.
- Ottawa River to Dow's Lake via Champagne Corridor.

The Capital Core Map (19 of 19) in Appendix 2 lists the points of interest within the Capital Core as well as existing and proposed pathways including missing segments that should be given priority for construction to complete the Capital Core network. The tables located in Appendix 2 present pertinent details relative to the existing and proposed pathway network, implementation priorities, ownership, the length of segments, potential partners (organizations identified to eventually manage the development of this segment), points of interest, origin and destination centres, designated natural areas, shoreline environments and environmental considerations, winter use opportunities, links and connections as well as additional comments pertaining to each pathway segment.

8.3.2 The Urban/Suburban Ring

This middle ring is characterized by close contact with green open spaces, waterways, places of ecological interest, agricultural and urban environments. It includes many points of interest in the National Capital as well as elements of regional importance including residential, employment and activity sectors. On the Ontario side, it includes the Greenbelt and the urban zones of Kanata, Cumberland, Gloucester and Nepean. In Quebec, it is defined by the urban sectors of Alymer, the Old Chelsea axis in the municipality of Chelsea and the northern limit of the Gatineau sector and the Lake Beauchamp Park axis in Gatineau and the Gatineau Park Gateway.

The suburban context represents great potential for development and expansion, with ambitious pathway programs proposed throughout new and growing communities as well as within the Greenbelt through green corridors as well as parkway and transit way corridors. Links between shorelines are envisioned through a river shuttle proposed along the marinas and the main docking points of this conceptual ring. Ferries already exist in this area, notably between the Masson sector and the urban sector of Cumberland.

Numerous points of interest as well as several origin and destination points are found on this ring and serve as structuring elements for the proposed pathway network. The detailed maps in Appendix 2 illustrate the network's structure on a city-wide scale. These maps show the existing and proposed networks, main access corridors, links and connections with local and regional networks, points of interest, origin and

TABLE 8.1 : Characteristics of the conceptual rings

Category	Typical Examples	Type of Interest	Physical Characteristics	Visitor Experience	Clientele	Signage
CAPITAL CORE	▫ Parliamentary Precinct ▫ Confederation Boul. ▫ Rideau Canal Pathway ▫ Voyageurs Pathway ▫ Brewery Creek Pathway ▫ Leamy Lake Pathway ▫ Ottawa River Pathway ▫ The Byward Market	▫ Interest in the Capital ▫ Parliament hill ▫ Rideau Canal ▫ Architecture/ heritage ▫ Museums ▫ Sites and buildings of interest ▫ Views/ skylines ▫ Canal locks ▫ City / urban life ▫ Contacts with green spaces / waterways/ ecological sites/ urban settings	▫ Pathway within designated corridor or shared use in the case of on-road links ▫ Lighting as required ▫ Hard surface	▫ Intermodal links ▫ Multiple activities ▫ Bustle/ urban life ▫ Main cultural events ▫ Many cultural aspects ▫ Sightseeing ▫ Many stimuli	▫ Mostly pedestrian ▫ Cyclists ▫ Commuters ▫ In-line skaters ▫ Multiple users ▫ Cross country skiers ▫ Ice skaters ▫ Winter walkers	▫ Pavement marking for tourist routes ▫ Tourist Information ▫ Interpretation ▫ International (several languages in addition to French and English) ▫ Information on related services and points of interest
URBAN / SUBURBAN	▫ Ottawa River pathways ▫ Rideau River pathways ▫ Gatineau River pathways ▫ Green space corridors ▫ Gatineau Park Gateway Sector ▫ The Greenbelt	▫ Contacts with green space/ waterways/ ecological sites/ urban settings ▫ Specific architectural/ heritage sites ▫ Cultural heritage ▫ Local points of interest ▫ Urban village	▫ Pathway within designated corridor ▫ Hard surface ▫ Greenbelt pathway: Semi-hard surface	▫ Access points ▫ Intermodal links ▫ Occasional cultural events ▫ Sightseeing ▫ Walking and strolling ▫ Touring	▫ Pedestrians ▫ Cyclists ▫ Commuters ▫ In-line skaters ▫ Families ▫ Cross country skiers ▫ Snowshoeing ▫ Ice skaters ▫ Winter walkers	▫ Interpretation ▫ Orientation ▫ Tour identification ▫ Information on related services and points of interest
REGIONAL RURAL / NATURAL	▫ Gatineau Park ▫ Certain green space corridors ▫ Surrounding region and valleys ▫ Malborough Forest	▫ Natural environment ▫ Woods/ wetlands/ farmland ▫ Panoramic views ▫ Environmental wealth ▫ Village and community life ▫ Rural landscape	▫ Pathways within designated corridor and shared pathways ▫ Hard or semi-hard surface	▫ Access points ▫ Intermodal links ▫ Close contact with nature ▫ Touring	▫ Cyclists ▫ Pedestrians ▫ Cycling tourists ▫ Mountain bikers ▫ Commuters ▫ Cross country skiers ▫ Snowshoeing	▫ Interpretation ▫ Orientation

destination points, designated natural areas, federal properties as well as the main parks and open spaces within the network.

8.3.3 The Regional – Rural/Natural Ring

This outer ring encompasses the rural and natural areas of Canada's Capital Region. It encircles Gatineau Park to the north, joins the Mississippi River to the west in Ontario and includes townships located at the southern end of the City of Ottawa such as Richmond, Osgoode, and Russell, as well as the Cumberland sector and "Du Lièvre" River corridor located at the eastern edge of Canada's Capital Region.

This outer ring was seen as a long-term initiative in the 1994 strategic development plan. Its development would alleviate congestion on the Capital Core and the urban/suburban rings as well as enhancing points of interest, village and designated

natural areas (DNA). Significant growth in suburban areas and in villages since 1994 has generated growing interest among residents and visitors for pathways in rural areas to serve rural destinations and attractions. In addition, as a result of recent city mergers and the rapid growth of country estate lots and villages, there is currently a much greater emphasis on pathway planning and in securing pathway corridors that serve rural communities and nearby urban areas.

This ring makes it possible for local visitors and tourists to discover Canada's Capital Region's rural zones and backcountry areas. The regional/rural ring offers interesting potential for longer tourist circuits lasting several days. The identification and preservation of significant visual corridors within this rural landscape, as well as the protection of designated corridors is essential for the network's future development. Given the long distances involved, and depending on the situation and the pathway's intensity of use, multi-purpose pathways in rural settings could be set up along the edges of secondary roadways.

In conjunction with the pathways proposed as part of the Pathway Strategic Plan, the Ottawa Rural Pathway Project initiative is a grassroots initiative to inventory and plan future recreational pathways in rural Ottawa. The Rural Pathway project is a collaborative effort between the Ontario government, the City of Ottawa and local community associations in rural Ottawa to plan and develop:

- Pathways within villages;
- Connections between villages, and
- Links to the urban recreational pathway network (NCC and municipal corridors) and the greater Eastern Ontario Network (e.g. Trans Canada Trail, Rideau Trail, etc.).

The Rural Pathway Plan shall reflect the conceptual direction of the regional – rural/ natural ring identified in the Pathway Strategic Plan and refine it through local data collected during the Plan's development.

The Master Plan (1 of 19 in Appendix 2) outlines potential pathways for the rural zone. It presents the main conceptual diagram, potential primary links and preferred routes.

8.3.4 The Main Access Corridors

The main north-south access routes connect the two main federal green spaces of Gatineau Park and the Greenbelt as well as linking the three conceptual rings and the Ontario and Quebec shorelines between them.

Like the spokes of a bicycle wheel, several concentric corridors link the urban/suburban and regional rings with the Capital Core and play a strategically role in the network's structure. These concentric routes may run along hydroelectric corridors, abandoned railways, wooded areas and green corridors as well as waterways and thus help to preserve these urban corridors that are essential to the network's structure.

The main access routes also ensure links between existing or proposed networks in outlying areas of Canada's Capital Region, such as the *MRC de Pontiac's PPJ-Cycloparc*, the newly opened pathway in Prescott/Russell county, the proposed pathway along the abandoned New-York Central railway along the Russell-Embrun

corridor, the Trillium Trail, the Rideau Trail, the Trans Canada Trail and the Route verte in Gatineau heading east towards Thurso.

8.3.5 Connectors and Links

The progression of bicycle and multi-purpose networks at the regional and national level is important. The development of links and connections between these various networks is a key factor in sustainable development and active green transportation policies integrating all the pathway networks and cycling facilities.

The intermodal links are another strategic element in the development of an efficient and flexible overall network. The development of links across rivers using shuttles and railway shuttles would make it possible to offer visitors varied and stimulating experiences. The improvement of links with public transport is an additional avenue to be explored, such as the "Rack 'N' Roll" program in Ottawa. Allowing bicycles on buses at particular times and the creation of "incentive" parking destined for bicycles near bus stops such as the City of Ottawa's "Bike and Ride" program are examples of successful programs which should be expanded.

8.3.6 Service Points

The concept envisions the establishment of service points at various locations on the network or nearby. As an example, these service points could offer bicycle repairs, bicycle and in-line skate rentals, and during the winter, cross country ski and snowshoe rentals, in addition to providing tourist information and distributing maps. Additional services could include interactive panels with information and/or interpretation, first aid and food service as well as public toilets and access to drinking water, etc. In rural areas, villages are excellent service points. Services can be located at community center facilities or in municipal buildings.

The service points should be set up at close intervals, particularly in the urban environment and the Capital Core, given that the majority of users in these sectors are on foot and considering an ageing population and the tourist potential that this population segment represents for the national Capital.

These service points could take full advantage of potential private-public partnerships in order to offer related services such as bicycle rental, food service, accommodation, art galleries and souvenir shops, therefore improving the tourism potential of the Capital Pathway network.

Lastly, these service points could also be the starting point for interpretive tours of the network and its points of interest.

Figure 8.2 :
The Capital Pathway Network

8.4 THE NETWORK'S STRUCTURE

It is imperative that the pathway network be connected with local networks in effect to develop an integrated network throughout Canada's Capital Region capable of providing an alternative method of sustainable green transportation. The development of connections between the Capital Pathway network and other local and regional networks will:

- Encourage non-motorized recreational and functional trips.
- Contribute to the development of sustainable green transportation alternatives.
- Allow commuters to easily transfer from one network to another according to their interests and destinations. For example, at times where there is a high level of traffic on the multi-purpose network, commuters may opt for a faster route on nearby on road cycling lanes, or choose the quality of experience of the Capital Pathway network.

A network structure closely linked to the regional planning framework and having a relationship with the various existing networks already in place is recommended for the creation of a coherent, functional and pleasant network that preserves and optimizes each segment's distinct characteristics. The diversity of options and user experiences remains an important element within this concept. Table 8.2 presents an outline of the proposed network typology.

The capital pathway network :

Canada's Capital Region's multi-use pathway network consists of three types of pathways, namely:

- Integrated pathways : These pathways comprise the Capital Pathway network. These existing pathways are primarily multi-use and multi-functional, are implemented primarily within open space corridors and are designed accordingly in order to enhance points of interest and user experience. The following also form part of these integrated pathways:
  - Network axis are often laid out in major green corridors. They link the outlying zones with the heart of the network, such as the Russell-Embrun Pathway or the rail corridor from Stittsville towards the Capital Core;
  - Connectors and strategic links serve mainly to complete the network and link different types of networks existing in the region. As strategic links, these may not be multi-purpose segments, as their primary function is to bridge the missing links that hinder the entire network (refer to the list of missing links in Section 8.3.1).
- Proposed pathways: Existing single use pathways or non-existing pathways identified by the NCC and its partners as pathways that may contribute to the network's expansion through their integration within, or addition to, the network. These pathways are part of future developments envisioned for the Capital Pathway network.

On road cycling facilities

- On road cycling routes serve primarily local purposes and are developed primarily by municipalities and regional entities. They are characterized by their single purpose use and are located on roadway networks. Residents are the primary target customers. This strategic plan does not elaborate on this network or type of facility.

Related regional networks :

- These networks are established outside Canada's Capital Region. They are usually multi-purpose networks of a regional, provincial or national scale and consist of a combination of on road cycling lanes or paved shoulders and off road trails or pathways. They are integrated into the Capital Pathway network as they enter Canada's Capital Region and contribute to the region's influence as a recreational hub and cycling destination while facilitating regional interconnections. La Route verte (primarily on road) and the Trans Canada Trail (primarily off road and on multi-use pathways within core area) are identified as related regional networks.

Figure 8.3
On road cycling facilities

TABLE 8.2 : Typology of Canada's Capital Region Pathway Network

Typology	Manager	Vocation	Characteristics
TYPE 1			
Capital Pathway Network	NCC/ City of Ottawa/ City of Gatineau	Multi-use and multi-functional	• Multi-purpose pathway network designed for the enhancement of points of interest and heightened user experience • Constitutes the core of Canada's Capital Region pathway network • Includes integrated pathways, non-integrated pathways and proposed pathways
Cycling facilities	Regional and municipal entities	Primarily single use (for cycling)	• Network of primarily single purpose bicycle lanes or paved shoulders; • Connects mainly origin and destination centres such as parks, schools, residential and employment sectors
Related regional networks	Regional and national	Multi-purpose and single use	• Networks of provincial or national scale crossing Canada's Capital Region and connected to the Capital Pathway network

8.5 OPTIMIZING THE QUALITY OF USER EXPERIENCE

The quality of user experience while on the pathway is an essential characteristic of this network. This characteristic distinguishes the Capital Pathway network from local networks with primarily utilitarian functions or vocations. The landscape bordering the pathway is a central element affecting the user experience, through its sensory qualities as well as cultural and regional significance. The network passes through environments that include dense urban settings, suburbs and bucolic rural surroundings, wooded areas and cultural landscapes offering views and experiences

that reflect the immense diversity and richness of Canada's Capital Region's landscapes.

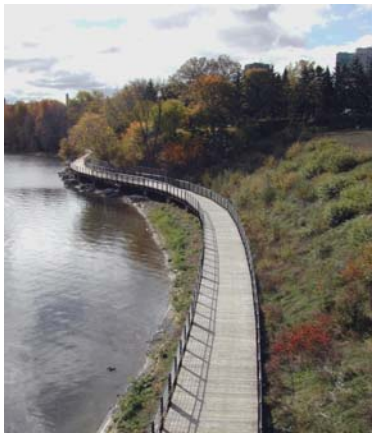
In order to preserve the quality of the landscape in proximity to the pathway, and improve this particular quality of the recreational network, guidelines for the pathway corridor protection and optimization have been developed. To this end, the pathway corridor includes a minimum clearance zone as well as zones of influence that are essential to the quality of user experience. Table 8.3 outlines the guidelines for designated corridor layout and management. The clearance zones include:

The pathway clearance zone:

- 6.0 meters wide, including a 3.0 meter width for the pathway itself as well as 1.5 meter shoulder on either side;
- The 3.0 meters pathway width may be wider in higher traffic areas.

The immediate zone of influence :

- Minimum of 6.0 meters is recommended on either side of the clearance zone;
- The specific width of the immediate zone of influence should be defined as part of landscape impact and integration studies / evaluations which can assist in determining layout and guidelines taking into account the pathway's context, including landscape type and quality, view sheds, built framework, adjacent land use, etc.
- Whenever possible, guidelines relative to the zone of influence as well as results of landscape impact and integration studies should be integrated into urban planning documents and regulations and included as an analysis and review criterion as part of the approval of regional development projects.



The greater zone of influence:

- Of varying width, where possible, according to the pathway corridor's immediate environment and defined by view sheds. Elements that define the view shed's limits may include buildings, fences and other site features, vegetation as well as landforms, etc.
- Elements within the greater zone of influence may, depending on their aesthetic and design quality and location may be compatible or in fact contribute to pathway quality and user experience and are important in determining the overall corridor's potential width. Elements to consider include man made structures such as storm water management ponds, sports fields and play structures, small park buildings and pavilions, roadways, transit ways, railways and electrical transmission structures. These elements may contribute to understanding and wayfinding within the landscape and may have local significance. Similarly, natural elements such as ravines, canals, watercourses and vegetation characterize each area and add to its distinctiveness. The proximity to nature within sectors of the Capital Pathway network is an essential component of the quality of the user experience, and to this end, efforts

to enhance the presence of natural elements by including them within the greater zone of influence may present significant opportunities.

- The optimum width of the greater zone of influence should also be defined as part of landscape impact and integration studies / evaluations in order to determine protection and optimization guidelines.

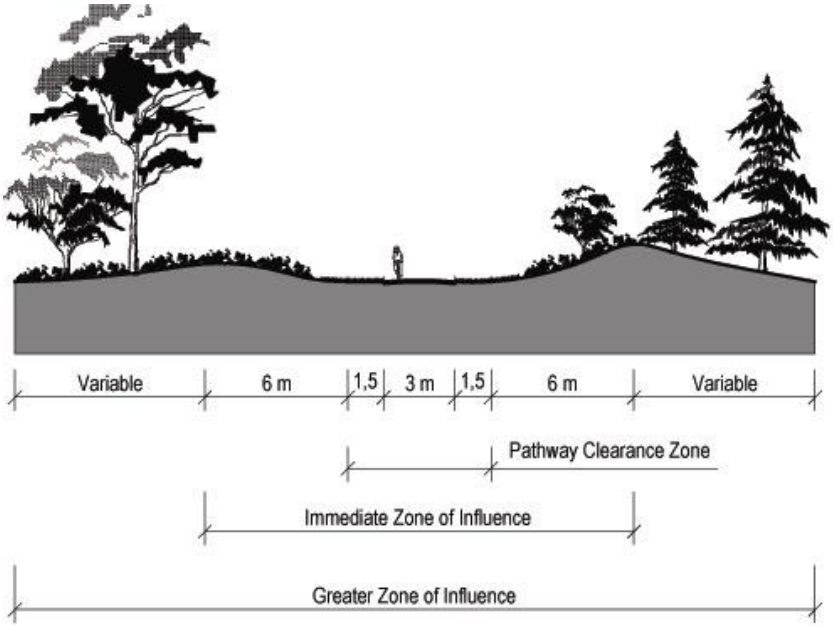


Table 8.3 presents the guidelines for designated corridor protection and landscape management.

TABLE 8.3 : Guidelines for Designated Corridor Layout and Management

Corridor	Width	Criteria	Guidelines	Implementation
Clearance zone	▫ 6 m typical ▫ Width determined by actual pathway width	▫ Slope ▫ Drainage quality ▫ Sensitivity of surrounding biophysical environment	▫ Encourage multi-use function ▫ Encourage pathway visibility ▫ Facilitate construction ▫ Minimize maintenance	▫ Feasibility study / evaluation
Immediate zone of influence	▫ 6 m minimum on either side of the pathway is recommended	▫ Sensitivity of surrounding environment, presence of points of interest ▫ Context ▫ Significant landscapes ▫ Visual openings and perspectives ▫ Quality of the built environment	▫ Preserve and enhance points of interest ▫ Provide a varied visual experience ▫ Emphasize harmony among landscape characteristics ▫ Preserve and enhance the environment's distinct and significant characteristics ▫ Maintain the integrity of the built environment ▫ Consider signage and wayfinding	▫ Landscape integration study/ evaluation ▫ Incorporation into the urban master plans in order to establish appropriate protection of corridors ▫ Integrate into the analysis criterion for the approval of development projects
Greater zone of influence	▫ Beyond the immediate zone of influence where possible and recommended as part of landscape integration studies/evaluations ▫ Dependant of view sheds and landscape elements ▫ Variable	▫ Important, meaningful landscapes ▫ Visual openings and perspectives ▫ Quality of built environment	▫ Encourage compatible land uses ▫ Preserve and enhance significant landscape characteristics ▫ Establish visual fields and view sheds	▫ Landscape integration study/ evaluation ▫ Integrate into the analysis criterion for the approval of development projects

IN SUMMARY:

An approach dedicated to an integrated multi-purpose network enhancing the elements of interest within the Capital and emphasizing the quality of user experience.

A regional organization based on the following conceptual structure :

- Three conceptual rings: the Capital Core ring, the urban/suburban ring, the regional rural/natural ring;
- Main axes, connectors, links and services points.

A network structure using the following typology:

- The Capital Pathway Network : integrated, non-integrated and proposed;
- Cycling facilities: local cycling networks
- Related regional networks: networks of national or provincial scale connected to the Capital Pathway Network within Canada's Capital Region.

Optimizing the quality of user experience through the establishment of a landscape management strategy and critereia for designated corridors, and in particular:

- The pathway clearance zone;
- The immediate zone of influence;
- The greater zone of influence.

CHAPTER 9 – DEVELOPMENT AND SUSTAINABILITY

9.1 OBJECTIVES

To improve existing strategies and establish new mechanisms which will support the continued development and implementation of an integrated network which plays a key role in structuring Canada's Capital Region.

9.2 DIRECTION

The decentralization of power and development of partnerships encourage the establishment of innovative approaches that integrate different levels of government and community organizations to improve the network's integration throughout the region and increase community appropriation.

The network's potential for future development depends upon its strategic implementation. It is essential to design effective tools to develop and build an integrated network that structures the region and fosters the implementation of a comprehensive network throughout Canada's Capital Region. An accountable organizational structure, committed volunteer involvement and mechanisms for the protection of the identified corridors are the preferred means of achieving this goal.

An accountable organizational structure:

- Broadening the responsibilities and mandate of the permanent pathway committee, through the creation of an inter-agency steering committee, in order to encourage and promote the development of an integrated network throughout Canada's Capital Region;
- This inter-agency steering committee, would consult as needed with various agencies involved with the pathway network including sports organizations, organizations promoting health and physical activity, as well as environmental, social, cultural, tourism, transportation and economic development organizations as needed. The steering committee would also consult with the various internal advisory committees at the NCC, and the cities of Ottawa and Gatineau to ensure strategic support of key initiatives and the development of partnerships with key involved groups;
- The inter-agency steering committee, sanctioned by the NCC and municipal entities would be mandated to guide network planning, the network's integrated development, and key initiatives related to safety, signage, services and promotional marketing.

Funding and partnerships:

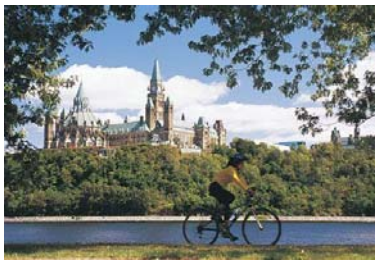
- Multi-year budgets should be identified by agencies responsible for the network in order to ensure its sustainability, appropriate management and required future development.
- Partnerships in the development, programming and promotion of the Capital Pathway Network should be explored in order to assist in the funding of key initiatives and heightening the Network profile.

Committed volunteer involvement:

- Volunteer groups or associations devoted to the capital pathway network could work in collaboration with the inter-agency steering committee towards actively coordinating volunteer patrols and certain maintenance efforts, compiling information on the state of the pathways and specific problems reported, etc.;
- This group could also assist the steering committee with various marketing initiatives.

Mechanisms for the protection and acquisition of identified corridors:

- To ensure the long-term development potential of the capital pathway network, it is essential to preserve and protect any parcels of land and corridors dedicated to the pathway's future establishment. These designated areas include:
  - hydroelectric corridors.
  - abandoned railroad corridors.
  - wooded areas.
  - abandoned roadways.
  - green corridors.
  - waterways and their immediate surroundings.



- Identifying these potential corridors in urban master plans and Official Plans would ensure their protection and integration into future developments. Bylaws integrated into urban master plans and Official Plans would make it possible to appropriately guide future interventions within these corridors, thereby ensuring open space continuity, landscape quality as well as a meaningful experience for pathway users.
- In order to allow the various partners to protect corridors, or portions thereof that may eventually form part of the network, planning mechanisms that will ensure the identification and the subsequent protection of these linear corridors in view of future developments planned within the region must be put in place by the municipal and governmental authorities that own these lands or that are responsible for the approval of development plans.
- As such, these mechanisms could ensure the protection of key corridors and linear open spaces identified throughout the region and bring them into public ownership therefore providing for the possibility of establishing ~~a~~ continuous greenways and an integrated pathway network. These strategic mechanisms could include:
  - Identifying continuous corridors within existing open spaces and designated lands in order to better consolidate available land and create viable corridors.
  - Integrating and consolidating open space and greenways corridor with other lands and infrastructures which could support the corridor functions such as flood plains, ravine lands, brown fields, storm water management facilities etc. Such efforts will require

coordination and cooperation between municipalities / land owners and developers.

- Expanding park land dedication to include pathway development.
- Land use agreements with private owners.
- Specialized agreements with agencies responsible for hydroelectric corridors, abandoned railways, etc.
- Working with partners such as land trusts and conservation authorities to secure corridors.
- Exchange and transfer of public lands between partners to develop and manage pathway corridors.
- Purchase of corridors and/or parcels of land.

Landscape Protection and Management Strategy

The development of a landscape management strategy for designated corridors which will support the establishment of corridor layout guidelines and optimization criteria should include the following:

- Landscape impact and integration studies / evaluations preceding proposed pathway design that evaluate the natural, cultural, built and biophysical characteristics of the environment and the quality of experience to determine optimal pathway corridor widths and pathway layout to minimize environmental impacts as well as infrastructure and future maintenance costs.
- Landscape impact and integration studies / evaluations that consider the user's experience along the entire corridor should also be undertaken before considering any major modification to the current configuration of pathways or open space corridors. As an example, a landscape impact and integration study / evaluation should consider the following criteria:
  - The preservation and enhancement of user experiences related to landscape quality.
  - The preservation and enhancement of the built framework, particularly within the Capital Core.
  - The enhancement of major visual axes and view sheds.
  - Potential future use, etc.
  - In the province of Québec, for example, the application of the P.I.I.A. (Site Planning and Architectural Integration Program) sets landscape quality guidelines within the built environment and helps to harmonize new construction and renovations within existing landscape frameworks. Such a mechanism can be utilized to the benefit of the pathway network.

9.3 UTILIZATION POLICIES

The Capital Pathway Network is intended to be used from sunrise to sunset except in the Capital Core, where lighting would prolong evening use. The pathway network should not be used at night. Restricting lighting to the busiest urban sectors remains appropriate. Lighting may also be warranted along segments identifies as part of a

pedestrian circulation network providing access to such facilities as schools, community facilities and transit stops.

The Sunday Bike Day program, through the temporary and periodic closure of some of the most heavily used parkways, encourages further use and accessibility to key corridors of interest in the Capital. This practice and program should be maintained and enhanced where possible.

The pathway network should pursue its accessibility policy. As such:

- The Capital Pathway Network is a public network. which should strive to provide universal accessibility wherever possible.
- Cyclists, pedestrians, cross country skiers, in-line skaters (without poles), joggers all have access to the network.
- However, motorized vehicles and horseback riding are not permitted on the pathways (with the exception of certain designated pathways in rural zones).
- Commuting is permitted when in compliance with the uses and user policies in effect.
- Self-propelled electric vehicles for persons with recognized disabilities may use the network if:
  - Their maximum speed does not exceed 20 km/h;
  - The vehicle's width does not exceed 30% of the pathway width (maximum 1 m wide).

Winter use:

Year-round use of the network is preferred. Particular emphasis on the winter use of the network is thus strongly encouraged, from walking on snow covered paths to winter leisure activities such as cross-country skiing and snowshoeing to more utilitarian trips on pathways cleared of snow in targeted sectors. In addition, some segments may require more intensive snow clearing if they form part of a pedestrian circulation network providing access to destinations such as schools, retail, community facilities and transit stops, etc. The proposed segments may require initial monitoring to determine the feasibility and frequency of their winter use.

For example, amenities located adjacent to Winterlude sites could be fully utilized. Hotels adjacent to the network could also support the network during the winter season. Walking, ski touring, snowshoeing and even cycling on certain sections could be considered. The sectors recommended for winter use are the routes previously described in the tables found in Appendix 2.

The network's maintenance during the winter differs according to the type of activity planned (installing trail markers, packing snow and setting tracks, snow removal, etc.). Further studies are necessary to evaluate the impact of freezing and snow clearing activities on the quality of the pathway surface, particularly for cycling, which requires a riding surface free of snow and ice.

IN SUMMARY:

- An accountable (empowered) organizational structure:
  - Creating an inter-agency steering committee to encourage and promote the network's development;
  - Consulting with the organizations and various internal advisory committees at the NCC, and the cities of Ottawa and Gatineau to ensure strategic support of key initiatives and the development of partnerships with key involved groups;
  - Developing partnership networks with the key groups involved.
- Committed volunteer involvement:
  - Creation of a volunteer group dedicated to assisting with such key initiatives as pathway patrols, maintenance, etc.;
  - Collaboration with the inter agency steering committee.
- The identification of corridor protection mechanisms:
  - The preservation of parcels of land eventually destined for use within the pathway network;
  - Acquisition/protection of parcels of land essential to consolidate the network according to an order of priority.

The Capital Pathway network continues to develop its universal accessibility policy. Winter use of the network is encouraged.

CHAPTER 10 – COST ESTIMATES

The method retained establishes an estimated cost per standard type of installation typical of the situations encountered during the network's construction. Cost estimates are developed per standard 100 meter segment. These budgetary (class D) estimates, accurate to within more or less 25%, are but an indication of the approximate overall costs. Table 10.1 outlines the budget cost estimates for 100 m standard installations.

The establishment of standard maintenance costs is encouraged as a tool to assist managers in the ongoing management of the network. Costs associated with lifecycle management represent a significant annual budget that may represent 10 to 15 % of initial construction costs. Life cycle management requires investments in network management, preventative maintenance and rehabilitation and/or construction. As a recreational pathway has a useful lifespan of 15 to 20 years, its rehabilitation must be planned as part of the management program.

TABLE 10.1 : Cost Estimates Per Standard 100 meter Segment

Intervention	Cost Estimate
Implementation of a new 4.0 m wide segment in the Capital Core conceptual ring including: • Asphalt pathway • Regulation and orientation signage • Pavement markings	$27,000 $
Implementation of a new 3.0 m wide segment with hard surface in the Capital Core conceptual ring and/ or the urban/ suburban ring including: • Asphalt pathway • Regulation and orientation signage • Pavement markings	$22,000 $
Implementation of a new 3.0 m wide segment with semi-hard surface in the Urban/ Suburban and /or Natural/Rural in separate corridor including: • Stone dust pathway; • Regulation and orientation signage • Trail markers	$15,000 $
Implementation of a new segment in the natural/ rural conceptual ring using a shared pathway including: • Paved pathway/road; • Regulation and orientation signage • Pavement markings • Trail markers	$16,000 $

Note : Contingencies and taxes are included.
Not included: Preliminary studies, bicycle and pedestrian bridges
Estimates in 2006 Canadian dollars, based on minimal interventions. This cost must be adjusted according to the cost index and construction market values for every subsequent year of project phasing.

IN SUMMARY :

Class D cost estimates are developed per standard 100 meter long segment.

Life cycle management requires investments in network management, preventative maintenance and rehabilitation and/or construction.

A recreational pathway has a useful lifespan of 15 to 20 years.

CHAPTER 11– STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)

11.1 OBJECTIVES

The SEA for the Strategic Plan for Canada's Capital Region pathway network has the following objectives:

- To integrate an evaluation process as part of the planning process for Canada's Capital Region pathway network;
- To consider environmental factors in the elaboration of orientations and proposals within the strategic plan;
- To identify environmental issues that need to be analysed in greater detail within the project intervention framework proposed by the strategic plan.

11.2 METHODOLOGY

The SEA integrates economic, social and environmental issues. Its goal is to integrate environmental factors into public policy and encourage addressing these issues early in the planning stage. The SEA examines the extent and nature of potential environmental effects, the need for mitigation measures to reduce or eliminate negative effects as well as the potential overall impact of any negative environmental effect once the mitigation measures are considered.

This SEA satisfies NCC policy on environmental assessment by undertaking a strategic assessment of its policies and plans to attenuate negative impacts and increase the net positive gain for the environment through its projects. The SEA is a two step process:

1. The scoping of environmental issues: Determines the direct and indirect results linked to the project's implementation and whether these results may have an environmental impact. This analysis focuses on the overall concept and strategic issues rather than a quantitative and detailed evaluation of environmental impacts. An environmental impact analysis is required when certain projects within this concept:
   - Have harmful effects on valuable resources.
   - May have significant negative environmental effects.
   - Prevent quality environmental goals from being attained (for example, the reduction of greenhouse gases or the protection of endangered species).
   - Are undergoing an environmental assessment under the Canadian Environmental Assessment Act or similar procedure.
   - Use new techniques or technologies that may have significant repercussions on the environment.
   - Are governed by existing environmental protection regulations.

2. An environmental impact analysis in greater detail is required only if the scoping of environmental issues reveals significant environmental issues or a high degree of uncertainty associated with the results. The issues to consider are as follows:
   - The extent and nature of potential effects.
   - The risk of residual and cumulative effects that may remain once mitigation measures are considered.
   - The use of mitigation measures to reduce or eliminate the project's negative environmental effects.
   - Follow-up and monitoring of the environmental impact of any policy, plan or program to ensure that the project's implementation supports sustainable development objectives set by the government or other involved organizations.
   - Any concerns voiced by the public or other interested parties.

11.3 PRIORITY ENVIRONMENTAL ISSUES

Environmental issues were determined at the onset of the strategic plan review process, which made it possible to identify priority issues that the planning process and environmental assessment must resolve. These priority issues are presented under three headings, namely biological, physical and socio-economic elements:

- Biological Elements :
  - Protection of ecosystems and habitats;
  - Protection and improvement of the natural environment, parks and designated natural areas;
  - Protection of plant and animal species as well as biodiversity.
- Physical Elements:
  - Protection and enhancement of waterfront environments.
  - Shoreline protection.
  - Protection of soil quality.
  - Reduction of soil erosion.
  - Protection of water resources (lakes, rivers, creeks) and wetlands.
  - Reducing noxious gas emissions and improving air quality.
- Socio-Economic Issues:
  - Optimizing the quality of user experience.
  - Protection and improvement of significant landscapes.
  - Enhancement of points of interest within Canada's Capital Region.
  - Encourage the network's appropriation by local communities.

- Encourage non-motorized green transportation.
- Develop a continuous network functioning throughout the Capital Core.
- Increase user safety.
- Protect archaeological resources.
- Local economic benefits.

11.4 SCOPING OF ENVIRONMENTAL ISSUES

The scoping of environmental issues focused on the implementation of policies and orientations developed within the revised strategic plan for the Capital Pathway network and its effect on different elements of the environment.

11.4.1 Physical Environmental Components

Water :

- The strategic plan encourages the enhancement and appropriation of waterways and wetlands. The Capital Pathway network lies in proximity to the following waterways: the Ottawa, Gatineau, du Lièvre, Blanche, Rideau and Jock rivers; Ruisseau de la Brasserie, Leamy Lake, Watts Creek, Carp River, Green's Creek, Mosquito Creek, Sawmill Creek and Cardinal Creek; and Lac des Fées, Leamy Lake, Deschênes Lake, Dow's Lake and Constance Bay. Several of these waterways and numerous wetlands are fish habitats and major hydrological resources. Pathway implementation should take place beyond the shoreline limits defined in environmental protection regulations and be subject to environmental assessment when implemented in these sensitive areas.
- Although pathway implementation outside of flood plains and shoreline limits is preferred, the Ottawa River Pathway (no. 10) and the Monahan Creek and Jock River Pathway (no.43) are proposed within flood plains. Alternative routes are recommended to permit circulation in these areas during flood periods. Care must be taken in the location, grading and choice of surface materials for the pathways to minimize the impact on the flood plain. These initiatives shall be subject to the laws and policies pertaining to environmental quality and wetland protection in effect.
- The implementation of pathways in proximity to sensitive areas constrains users to within designated corridors, thereby contributing to the further protection of these vulnerable areas.
- The sensitive nature of these sites must be considered during the pathway's construction. Construction techniques must be adapted in consequence and special measures for the area's protection should be applied, such as indicating the intervention zone.

Air :

- The development of a pathway network throughout Canada's Capital Region and its interconnection with municipal bicycle paths presents an alternative to automobile displacements and thereby greatly contributes to the improvement of the region's air quality.

- The construction of the missing links identified within the Capital Core will result in a continuous network with more efficient and uninterrupted movement, further enhancing the potential for non-motorized green transportation.

Flora :

- The pathway network encourages the enhancement and appropriation of designated natural areas, conservation zones, parks and forest reserves and is therefore laid out in proximity to the following areas: Clement Bay, Green's Creek, Mer Blue, Carp River, du Lièvre River, Shirley's Bay, and Stony Swamp conservation zones; Pinhey and Pine Grove forest reserves as well as Gatineau Park and numerous provincial and federal parks and properties interspersed throughout the region.
- The implementation of pathways near sensitive areas contains visitor movements within designated areas, therefore contributing to the further protection of these vulnerable areas. The vulnerability of the sites must be taken into consideration when constructing pathways. Therefore, the techniques of construction must be adapted and particular measures of protection of the environment such as the demarcation of the intervention zone must be applied.
- The implementation of pathways near sensitive areas must go through a flora inventory to identify and protect rare, designated and threatened species.
- Wherever possible, areas immediately adjacent to the pathway will be maintained using an integrated management approach (selective mowing procedures, no herbicide or pesticide use) that encourages the diversification of vegetation.
- The recommended approach favours the enhancement of the environment's intrinsic qualities. As such, native plantings typical of the area with be a priority, thereby contributing to its biodiversity.
- The protection of corridors identified for the future implementation of the network limits development and encourages the naturalization of corridors, especially in the urban/suburban and regional rural/natural rings where the network is still less developed.

Fauna :

- The interconnection of natural areas, parks and waterfront environments allows the layout of a "green" network contributing to wildlife biodiversity following landscape ecology concepts;
- The creation of a minimum 6 m zone of influence on each side of the pathway encourages the development of ecotones resulting in a wealth of diverse pathway edges suitable for wildlife habitats.
- The implementation of pathways near sensitive areas must go through a faunistic and avian inventory to identify and protect rare, designated and threatened species.

11.4.2 Sociocultural and Economic Components

Quality of life:

- The network's implementation contributes to the overall health of residents in several ways :
  - Encouraging an active lifestyle and contributing to the overall health of residents through free, accessible physical activity in a framework that highlights the quality of user experience;
  - Facilitating contact with green spaces and shoreline environments;
  - Contributing to the identification and appropriation of places through an awareness of the region's cultural heritage, historical and natural elements of interest, and the preservation and enhancement of the region's intrinsic qualities such as significant and authentic landscapes.
- The network's planning, implementation and management are designed with user safety in mind :
  - Priority construction of the network's missing links in the Capital Core would allow for uninterrupted movement and help alleviate congestion on the heavily-used urban network.
  - The use of an evaluation grid integrating safety criteria, improvement of the prevention program and incident follow-up as well as the promotion of a code of ethics that emphasizes tolerance, courtesy and pathway sharing as a means of optimizing user safety regardless of their means of displacement.
  - Accessibility criteria are elaborated to encourage the network's use by persons with physical disabilities.

Safety:

- Mechanisms to improve user safety have been developed :
  - The development of an evaluation grid integrating safety criteria used prior to the planning process;
  - Optimize the planning of pathways to avoid isolated areas and maintain pathways visible to the public.
  - The improvement of the prevention program and incident follow-up, including site investigations and corrective measures;
  - A review of the user code of ethics emphasizing pathway sharing.

Built Environment:

- The creation of a corridor and a zone of influence where regulations and urban plans stipulate design and layout criteria that encourage a harmonious urban development emphasizing the qualities of the natural and built heritage;
- A study/evaluation prior to pathway implementation that considers the qualities of the natural and built environment is necessary to minimize environmental impacts as well as construction and maintenance costs;

- Landscape insertion studies/ evaluations for corridors that encourage the preservation and enhancement of the built environment and the quality of user experience.

Heritage (archaeological resources) :

- The approach recommended in the strategic plan involves the enhancement and protection of significant elements of collective heritage. The elements of interest are identified in the strategic plan. A study/ evaluation of the pathway's insertion prior to its implementation would allow the identification of these elements of interest while the proposed designs would protect and enhance them;
- The services of an accredited archaeologist are required before any intervention in areas that may contain archaeological elements.

Tourism and recreation:

- The marketing and communication plan recommends a marketing strategy emphasizing the network's contribution to Canada's Capital Region's visibility and influence;
- The strategic plan's direction emphasizes the position of Canada's capital as an important cycling destination and as a leader in improving the quality of life. The network also contributes to the region's economic vitality.

Community Environment :

- The implementation program recommends volunteer involvement in the network's patrolling, and maintenance, and encourages its appropriation by local communities ;
- The network's implementation throughout the region and the connection of communities stimulates inter-regional exchanges between different communities as well as with visitors and tourists using the network.
- Transportation: the integrating alternative transportation options into the community contribute to buffers between land uses and road and infrastructures.
- Connections with on road cycling networks as well as the priority construction of missing links make the Capital Pathway network a significant element in alternative methods of transportation. The positive impacts of active green transportation are numerous: a reduction in roadway congestion, noise pollution and noxious emissions.
- The Capital Pathway Network and green corridors play an important role in structuring open spaces in the community as well as enhancing accessibility to parks, open spaces, community facilities, schools, etc.

11.5 CONCLUSION AND RECOMMENDATIONS

The SEA for the strategic plan for Canada's Capital Pathway network evaluates its conceptual planning orientations to determine the effects that its implementation could have on the environment. This evaluation addresses biophysical and socio-economical issues. The analyses focuses on the relationship between each component of the environment and the orientation put forth in the strategic plan.

The SEA satisfies NCC policy on environmental assessment. The strategic plan does not constitute a project under the Canadian Environmental Assessment Act, and as such, is not subject to the act. The implementation of the strategic plan would, in all likelihood, have the following environmental effects and must consider the following observations that pertain to them:

- The implementation of pathways in sensitive areas such as parks and shoreline environments should be carried out in accordance with regulations and laws in effect pertaining to the protection of wetlands and shorelines. The tables presented in Appendix 2 indicate the presence of sensitive areas such as designated natural areas, and shoreline environments in proximity to existing and proposed pathways.
- Interventions in flood plains and along shorelines should be carried out in accordance with regulations and laws in effect.
- Site vulnerability must be considered when constructing pathways, and construction techniques should be modified in consequence, as well as applying environmental protection measures such as clearly designating the intervention area.
- The implementation of pathways in proximity to environmentally sensitive areas should be undertaken in conjunction with plant, animal and bird inventories in order to identify and protect rare, designated or endangered species.
- The interconnection of Canada's Capital Region green spaces through a network will have a positive effect on the quality of wildlife habitats and in maintaining biodiversity.
- The development of alternatives to motorized transportation will have a positive impact on the resident's quality of life and on air quality, contributing to the reduction of greenhouse gas emissions.
- Feasibility studies carried out at the pre-concept stage will allow the identification of sensitive elements within the natural and cultural heritage and encourage their protection and enhancement. This type of preventive measure will have a positive effect on the quality of the natural and built environment.
- In a similar manner, a landscape insertion study/evaluation carried out during the planning process would have a positive effect on the landscape quality and the user experience.

IN SUMMARY:

Environmental impacts related to the implementation of the Strategic Plan will be minimized through the respect and application of the various regulations and laws in effect as well as the use of modified construction techniques in sensitive areas.

Taking into account that the mitigation measures put forth in this report will be integrated into future planning work for the Capital's Pathway Network and that future planning work that will further examine the Capital pathways will be subject to environmental evaluation under the Canadian Law on environmental evaluation, it is apparent that the implementation of the project will not have any major environmental negative impact.

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