Evaluation of Roadways Management

Key Findings

September 2022

Cover: View of the Parkway and Lake Wapizagonke from the Belvédère du passage, La Mauricie National Park

Ce document est disponible en français.

Office of Internal Audit and Evaluation
Parks Canada
30 Victoria Street
Gatineau, QC J8X 0B3

CAT. NO R62-584/2022E-PDF
ISBN 978-0-660-45035-3

Parks Canada Parcs Canada

Canada

Table of Contents

Tables and Figures

Acronyms and Abbreviations

Table 1: Roadway Acronyms and Abbreviations

Acronyms	Names in Full
APOC	Agency Policy and Operations Committee
AMPD	Asset Management and Project Delivery
API	Asset Priority Index
BIA	Basic Impact Analysis
BMPs	Best Management Practices
CHVE	Cultural Heritage and Visitor Experience
CRV	Current Replacement Value
CAI	Centralized Asset Investments
DW	Deferred Work
FCI	Facility Condition Index (or DW/CRV*)
FII	Federal Infrastructure Investment
HES	Highway Engineering Services
HOU	Highway Operations Unit
IIMM	International Infrastructure Management Manual
IPOC	Investment Program Oversight Committee
OAC	Overall Asset Condition
MRT	Milestone Reporting Tool
PCRA	Project Complexity and Risk Assessment
PoW	Program of Work
PSAB	Procurement Strategy for Aboriginal Business
RPA	Request for Project Approval
RTS	RPA Tracking System
TEC	Total Estimated Costs
TCH	Trans-Canada Highway
VDW	Value of Deferred Work

About the Evaluation

Evaluation of Roadways Management

Evaluation Questions

1. Does the governance framework for roadways management support effective management?

2. Are outputs consistent across field units?

3. Have the roadways management outcomes been achieved?

4. Does the current model for roadways management result in efficient delivery of activities?

5. To what extent is the funding for roadways management sustainable?

The evaluation examined the effectiveness and efficiency of Roadways Management, consistent with the requirements of the Treasury Board Policy on Results (2016) and associated Directive on Results and Standard on Evaluation.

This evaluation covers the period between 2015-16 and 2019-20. Parks Canada evaluation staff conducted field work between June and October 2019.

The scope of the evaluation includes all roadways managed by Parks Canada, with the exception of pedestrian and vehicular bridges associated with Ontario and Quebec Waterways, and roadways within Parks Canada Townsites.

Data from multiple lines of evidence were collected for the evaluation. These included:

- Document and file review
- Analyses of multiple databases relevant to roadways management
- Process mapping
- Interviews with Parks Canada Agency staff, partners and stakeholders
- Site visits

Evaluation staff visited:

- Terra Nova National Park
- Riding Mountain National Park
- La Mauricie National Park
- Lake Louise, Yoho, and Kootenay Field Unit
- Mount Revelstoke and Glacier Field Unit
- Banff Field Unit

Program Description

Parks Canada operates and maintains 3,300 km of roadways, including over 1,000 km of highways, within national parks, national park reserves, and national historic sites.

The roads link communities to Parks Canada places and to essential regional and national transportation corridors.

A total of 31 field units manage the day-to-day operations of roadways and related assets such as bridges and culverts, ensuring public safety and mobility while minimizing risks to the Agency and its cultural and environmental resources.

Key among the challenges of caring for this extensive portfolio are the costs incurred by maintaining and rehabilitating roadways throughout their lifecycles.

The 2019 National Asset Report Card lists the current replacement value of all Parks Canada roads at $5.7 billion, and of all vehicular bridges at $1.9 billion. Total deferred work is listed at $739 million and $350 million, respectively.

Leading up to 2020, funding from the government's Federal Infrastructure Investment Program helped Parks Canada complete its largest asset rehabilitation initiative to date, reducing a large backlog of deferred maintenance activities that were delayed due to other funding priorities, and making the roadways safer for visitors and travellers.

For management purposes, Parks Canada divides the roadways and their corresponding bridges into six categories, based on function and strategic importance (see Table 2 on the following page).

From 2015 to 2020, accountabilities for the roadways were distributed among two Parks Canada senior executives, the Senior Vice President, Operations, and the Vice President, Strategic Policy and Investment (now Strategic Policy and Planning).

Bridge on the Trans-Canada Highway in Terra Nova National Park, 2019

Inventory of Roadways and Vehicular Bridges

Category 4 roads, which give visitors access to venues in the parks and historic sites, are the most numerous, at a count of 476. However, the 32 provincial through highways and seven Trans-Canada Highway segments account for about a third of all roadway kilometers, and make up 57% of their total current replacement value. Six category 4 roads and 26 vehicular bridges are also part of Parks Canada's built heritage portfolio.

Table 2: Parks Canada Roadways and Vehicular Bridges

Road and Bridge Types	Count	CRV* ($,000)	% CRV in Good to Fair Condition	% CRV in Poor to Very Poor Condition	Deferred Work ($,000)
All Roadways	679	$5,687,548	80%	20%	$739,497
1 Trans-Canada Highway	7	$1,484,297	100%	0%	$172,049
2 Provincial numbered highways	25	$1,753,386	82%	18%	$186,064
3 Special attraction roads	8	$955,839	82%	18%	$198,884
4 Access roads to visitor facilities	476	$1,348,457	57%	43%	$150,741
5 Access roads to private facilities	39	$88,903	32%	68%	$19,029
6 Service roads to Agency facilities	124	$56,666	67%	33%	$12,730
All Vehicular Bridges	611	$1,945,446	63%	37%	$350,292
Vehicular Bridges (Category 1-2)	247	$377,064	79%	21%	$40,236
Vehicular Bridges (Category 3-6)	246	$387,474	68%	32%	$97,291
Vehicular Bridges (Other)	100	$374,137	52%	48%	$137,204

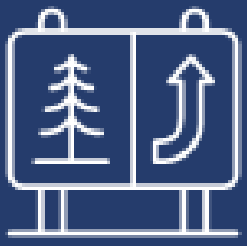
Source: Parks Canada Asset Report Card, 2019
*Current Replacement Value

Logic Model

Figure 1: Roadways Management Logic Model

Inputs	Financial Resources ($) - Human Resources (FTEs) - Federal/provincial legislation, policies, standards - PCA Policies, Procedures, Directives and Standards		
PCA Activities	Operations & Maintenance	Inspection and Reporting	Design and Construction
Outputs	Environmental assessments Documentation of maintenance Maintenance work completed Driving surfaces Related infrastructure (e.g. fencing, rock cuts) Winter operations Equipment maintenance	Inspection reports Asset Condition Reports Corporate reports	Environmental Assessments Indigenous Engagement Stakeholder engagement and consultations Road/highway design plans and drawings Construction work Documentation of construction work completed
Responsible	Field Units / Highway Operations Unit	National Office Asset Management Highway Engineering Services	Highway Engineering Services / PDS / Field Units
Outcomes	Immediate	Users are informed of risks and conditions associated with travel on roadways Due diligence is demonstrated Negative cultural and environmental impact of roadways are minimized Roadways are maintained or improved	
	Intermediate	Parks Canada's roadway network is reliable for visitors and through traffic Legal risks and potential liabilities are mitigated	
	Long-Term	Users have a positive and safe experience when using Parks Canada roadways	
	Departmental Result	People connect to and experience Canada's natural and cultural heritage in ways that are meaningful to them	

Key Findings



Effective Management

Expectations	Findings
Governance and management structures in place, ensuring oversight of roadways management	Management structures are in place for roadway operations and capital projects. Oversight is divided among field units, HES, HOU, and Investment Management.
Clear and commonly understood roles, responsibilities, and accountabilities	Operational roles were generally clear but not well documented. The division of responsibilities among the functional units was not well understood.
Provision of clear strategic objectives and priorities	Strategic priorities were closely tied to the implementation of the FII initiative, which shaped new organizational structures and business processes.

Governance Structures

Indicator: Evidence that governance and management structures are in place and followed

Information collected indicated that governance structures were in place and widely followed.

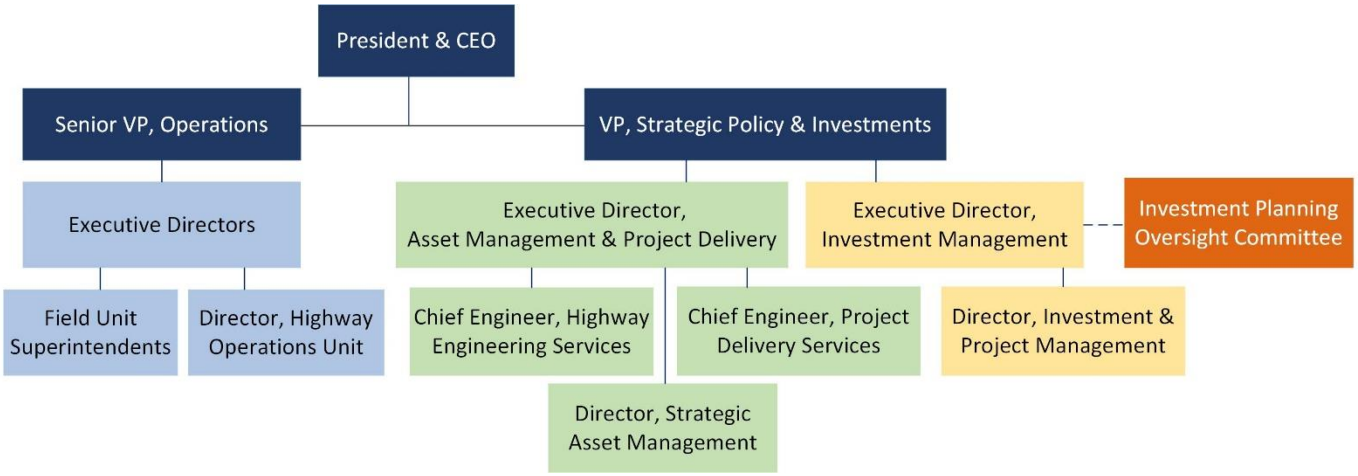
Between 2015 and 2020, governance of roadways was shared by the Senior Vice-President of Operations (SVP, Ops) and the Vice-President Strategic Policy and Investments (VP, SPI), now known as Strategic Policy and Planning. The VP SPI had oversight of capital projects and investments, including project delivery, strategic asset management, highway engineering, and the investment program.

Accountability for safe and reliable roadways, then as now, resides with field unit superintendents (FUS) and the Director of the Highway Operations Unit (HOU). FUSes and the Director, HOU, report to the SVP Ops through one of the Operations Directorate's six Executive Directors (or EDs), who ensure that roadway activities are in alignment with Parks Canada strategic priorities.

EDs also supported the alignment of roadway management and capital investments as members of the Investment Planning Oversight Committee (IPOC). IPOC's mandate was to review and make recommendations on the allocation of capital investments for the Agency's built assets, including roads and highways.

Following a review of the Agency's corporate committee structure, IPOC's roles were shifted to the Finance and Investment Planning Committee in fall 2020.

Figure 2: Roadways Governance Structure (2015 to 2020)



Functional Units

Field Units manage roadways within national parks and national historic sites. Under the National Parks Act and the National Parks Highway Traffic Regulations, Field Unit Superintendents are accountable for the management of all roads in their jurisdictions. Within most field units:

- **Asset Managers** oversee maintenance activities for all roadways and capital projects for road categories 4, 5, and 6.
- **Resource Conservation** staff lead efforts to mitigate the environmental impacts of roadway activities.
- **Visitor Experience** staff are responsible for signage, staffing entry points, and traffic management.
- **External Relations** managers ensure roadway information is accessible to visitors and highway users.
- **Visitor Safety** staff are responsible for avalanche control in Banff, Yoho, Kootenay, and Jasper National Parks.

The Highway Operations Unit is responsible for operations and maintenance for roadways in Banff, Jasper, Yoho, and Kootenay, Mount Revelstoke, and Glacier National Parks. The HOU also provides avalanche management in some mountain parks.

Highway Engineering Services is responsible for road and bridge inspections, leads design and construction for category 1 to 3 roads, contributes to components of highway maintenance, and leads investment planning for category 1 to 3 roadways. On a case-by-case basis, HES may also provide project management for category 4 to 6 roadways, upon request of field units.

Supports

Investment Management manages requests and allocates capital funds via three investment portfolios.

Investment Planning Oversight Committee recommended funding allocations for capital projects to senior management.

Strategic Asset Management provides functional leadership for asset management, including the Maximo data system.

Project Delivery Services project management support for category 4 to 6 roads by request of the field unit.

Clear Roles

Indicator: Roles and responsibilities are clear and documented

At the operational level, roles and responsibilities were clear, though not always well documented.

It was felt that FII projects had positive impacts on the clarity of certain roles within field units.

Clear and Understood

A review found limited documentation of roles and responsibilities.

With the exception of a document focused on construction sites and terms of reference for select committees, few resources were found describing key roles or the relationships between the functional units.

Findings from site visits and interviews were similar. A total of 64 participants were asked if their roles and responsibilities in roadways management were clear, commonly understood, and documented.

While most (44 out of 64) described their roles as clear and well understood, fewer (13 out of 64) said they were documented.

In comparing those who felt roles were clear with those who did not, operational staff and their managers, i.e. those working in field units or with the HOU, emerged as having the clearest sense of their functions within roadways management.

Staff at more senior levels, and those in national office positions, make up most of those who reported a lack of clarity.

Comments from this group focused on the divisions of responsibilities between the main functional units, that is between HES, HOU, and the field units. These are described in more detail on the following page.

Project-Based Roles

Although operational roles were largely clear, some field unit staff reported that the extra resources and more formal structures of the FII projects helped to make their roles better understood within their field units.

In particular, participants at two field units felt that Resource Conservation staff had been better integrated during FII projects than during routine maintenance activities. Staff reported being consulted earlier and receiving support to ensure that surveillance activities could be carried out.

Accountabilities and Responsibilities

Indicator: Accountabilities and responsibilities for roadways are clear and documented

Staff at all levels reported uncertainties related to the responsibilities of the key functional and support units.

As illustrated in Table 3 below, accountability for roadways 1 to 6 remained with field unit superintendents, while capital project leadership and investment portfolios were divided by roadway categories. Work flows adapted to this can be seen in the process maps (see annex).

In contrast to the findings for operational roles, the wider responsibility structures for roadway management, meant to support the FII initiative while still delivering roadway operations, were not well understood. Data gathered from internal reports and consultations with staff indicated a need for more clarity in the division of responsibilities between the functional units (see p.14) as well as some of the support structures, such as the asset management system and the financial coding structure.

Areas where staff were most interested in gaining greater clarity included the roles of asset managers on category 1 to 3 roadways, asset data management responsibilities, and responsibilities for emergency response requests, which during FII projects were often addressed by leveraging capital work already underway. The activity coding structure was also noted as a contributing factor as it separates roadway assets into three groups, based on the roadway categories. As policy guidance was not in place, staff also reported challenges in addressing gaps or uncertainties, noting that resolution often depended on good interpersonal relationships among team leads.

Table 3: Roadway Categories and Responsibility Structures

Roadway Categories	Investment Portfolios	Capital Projects	Financial Activity Coding	Ops. and Maintenance	Inspections
1. Trans-Canada Highway	Highways	Highway Engineering Services	Heritage Canals, Highways, and Townsites	Field units or Highway Operations Unit	Highway Engineering Services
2. Provincial highways					
3. Special attraction roads	Cultural Heritage & Visitor Experience		Visitor Experience		
4. Access roads (visitors)		Field Units			
5. Access roads (private users)			Internal Services		
6. Service roads					

Strategic Objectives and Priorities

Indicator: Evidence of well-defined and understood strategic priorities and objectives

Roadway priorities were primarily focused on operational requirements and the delivery of FII projects.

Strategic priorities for built assets and the FII initiative were documented. Roadway management priorities were primarily identified through interviews with staff.

Safe Roads, Open Highways

The most commonly cited priorities for roadway operations were public safety and the reliability of through highways, many of which link communities to essential services such as schools and hospitals.

Project Delivery

Due to the FII initiative's large program of work and five-year timeline, the timely delivery of FII projects was itself a strategic priority.

Environmental Impacts

Mitigating environmental impacts of construction and roadway activities emerged as strategic priorities for field unit staff.

Visitor Experience

Field unit staff also saw FII projects as opportunities to address long-standing visitor complaints about road conditions and better relations with stakeholder groups, such as local cycling clubs.

Asset Sustainability

Parks Canada's 2019-24 Investment Plan lists asset sustainability as one of four corporate priorities. An asset sustainability plan is noted as a key step towards this objective.

Government Priorities

Government-wide priorities listed in the Investment Plan included accessibility and inclusion, climate change resilience, emission reduction, greening, and reconciliation with Indigenous peoples and nations.

Wildlife highway overpass, Banff National Park, 2007

Strategic and Policy Alignment

Indicator: Degree to which activities align with policies, strategic priorities, or legislation

Evidence of alignment with strategic and operational priorities as well as environmental legislation was identified.

As Parks Canada does not have in place formal directives for roadways, alignment with policies cannot be assessed. That said, common priorities of road safety, reliability, FII delivery, impact mitigation, and visitor experience were identified by staff from across the functional units.

Site visits and file reviews found evidence of alignment with environmental legislation, while multiple reports confirmed the successful delivery of FII projects. Evidence that safety and reliability are prioritized was identified in investment plans and staff interviews.

In 2019, the Investment Planning Oversight Committee (IPOC) endorsed a new Project Assessment Tool (PAT) with nine weighted criteria to support investment decisions for built assets. Relevant to roadway priorities, safety, ecological integrity, and visitor experience figure among the criteria. Related documentation stated that government priorities such as climate change adaptation, greening, accessibility, asset rationalization, and reconciliation were considered for the PAT, but not included in the scoring systems. However, links to these themes could be noted in projects proposals, allowing them to serve as an additional filter for prioritized decision making.

Table 4: Project Assessment Tool

PAT Tool Criteria and Weighting	Max points by criteria	% of total available points
1. (a) Health & Safety: Probability 1. (b) Health & Safety: Consequence	360	30%
2. (a) The Cultural Resource(s) is Improved or Maintained	120	10%
2. (b) Type of Cultural Resource that will be Improved or Maintained	120	10%
3. Positive Impact to Partners and Stakeholders	120	10%
4. Threats to Ecological Integrity	120	10%
5. Visitor Experience	120	10%
6. Operational Risks	60	5%
7. Impact on Reputation	60	5%
8. Financial/Legal Impact/Gate	60	5%
9. Project Inter-dependencies	60	5%
Total	**1200**	**100%**

Consistent Activities and Outputs

Expectations	Findings
Relevant directives, policies, and legislation are followed	Parks Canada does not have in place national policy direction for the management of roadways.
Acknowledging regional differences, activities are consistent and outputs are common across field units	Local contexts account for the majority of observed differences between field units. Some variations were noted in maintenance documentation and information management.
Due diligence is demonstrated	Examples of good practices were identified in specific areas such as construction health and safety, and maintenance documentation.

Background: Policy

Policies and Legislation

Parks Canada does not have in place national policy guidance for the management of roadways. As such, field units have applied evolving sets of federal and provincial standards, Parks Canada directives, and legislation, as illustrated in Figure 3.

The National Parks Act of 1988 first established that Field Unit Superintendents are accountable for all of the roads in this jurisdictions. These accountabilities are further explained in the 2006 National Park Highway Traffic Regulations. Important environmental law includes the 2002 Species at Risk Act and the 2019 Impact Assessment Act.

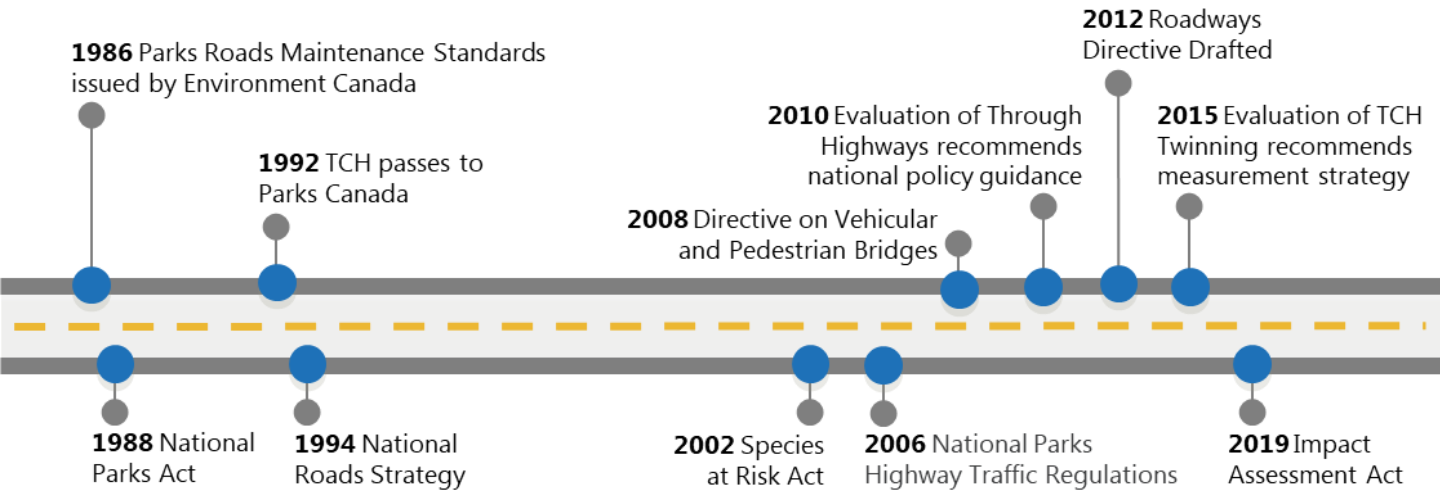
Standards and Performance Measures

In 1994, shortly after Trans-Canada Highway segments were transferred to Parks Canada, the National Roads Strategy recommended that field units adopt their respective provincial highway standards. However, due to the resources required, these were not adopted. In 2019, most asset managers interviewed reported using a mix of provincial standards and the 1986 Parks Maintenance Standards produced by Environment Canada.

The absence of national policy guidance was also noted in the 2010 Evaluation of Through Highways. In response, a draft directive was completed in 2012 but never formally adopted. The Highway Operations Unit do currently use the winter maintenance guidelines developed with the directive for their operations.

Lastly, the 2015 Evaluation of TCH Twinning recommended the development of more robust performance metrics for monitoring highway safety and efficiency. These were confirmed as still in development.

Figure 3: Roadways Policy Timeline (1986-2019)



Activities and Outputs

Indicator: Evidence that field units have common activities and outputs

Reflective of the Agency's decentralized approach to operations, field units use different models and standards to deliver roadway operations.

A process mapping exercise, confirmed by interview results, found that roadway activities were similar across field units, with variations mostly due to practical factors like terrain, weather, and the types of roads being managed.

The consistency of outputs is more difficult to assess, due again to variations in settings and road types, though the FII projects have helped field units achieve more consistent results in terms of roadway asset conditions.

Service Models

As field units have the authority to structure their own operations, different service delivery models are used across Parks Canada sites. Information gathered from asset managers identified four main models, with some field units using more than one approach concurrently:

- Direct delivery using field unit staff and equipment;
- Contracting activities to third parties, lessening equipment needs;
- Service agreements with provincial or territorial governments, and;
- Consolidating road operations across multiple field units.

The last item only applies to the Highway Operations Unit (HOU), which delivers road operations across the Mountain parks.

Parks Canada's roadways vary significantly in size, terrain, surface, climate, and traffic levels.

Left Image: The Trans-Canada Highway in Banff National Park, 2014

Right Image: A vehicle driving through the West Block of Grasslands National Park, 2018

Information Management

Indicator: Evidence that field units document work in a consistent manner, including updating databases consistently

Variations in information management and data quality practices were identified.

Data Management

A process mapping exercise, supported by interview data, identified areas of concern for the consistency of asset data within Maximo, Parks Canada's asset management system.

Implemented in 2015 as the FII initiative was getting underway, it was found that data entry responsibilities and procedures had not yet been standardized across the Agency.

The report also noted that as editing permissions for asset data were widely distributed across functional units, it was unclear who was ultimately responsible for data accuracy.

Lastly, as shown in Figure 4 MRT, Parks Canada's project management database, is not linked to Maximo. Staff are required to update the system manually.

Maintenance Records

Logs and daily winter maintenance reports shared by four field units and the Highways Operation Unit were compared.

Common items included operator names, dates, times, place, snowfall, actions taken, materials used, and signatures. Documents were all in the form of paper files, with reports filled out by hand.

Variations were found in the level of details recorded for maintenance activities, weather, and locations.

These findings support concerns expressed by field unit superintendents, asset managers, and national office staff that variations in documentation practices, made in the absence of clear policy direction, pose a risk to the Agency.

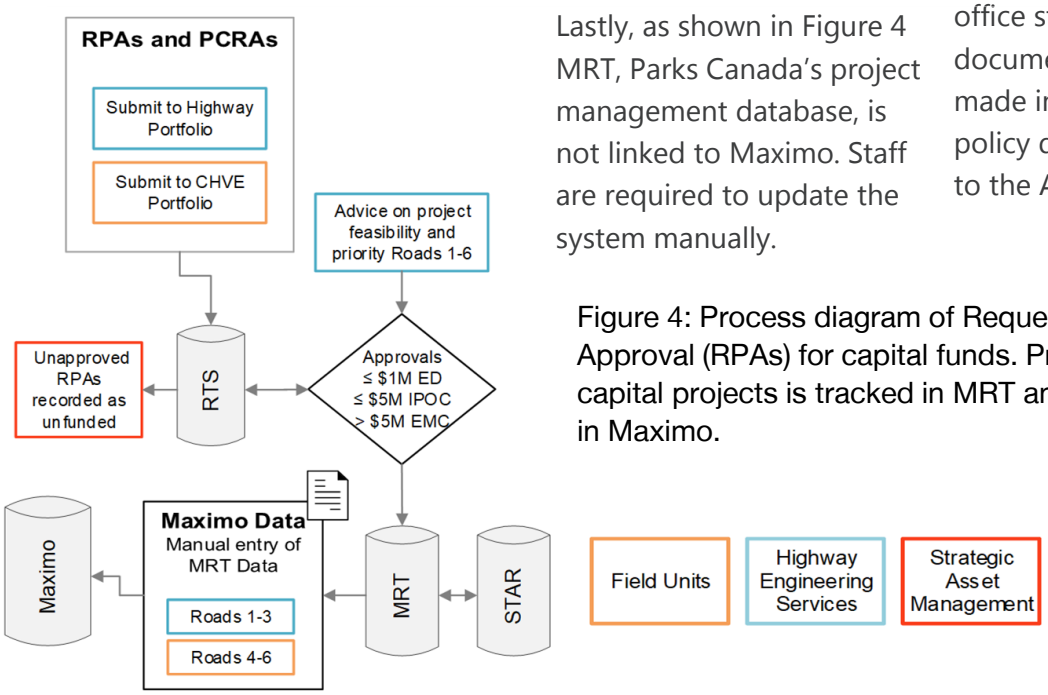


Figure 4: Process diagram of Requests for Project Approval (RPAs) for capital funds. Progress on approved capital projects is tracked in MRT and manually updated in Maximo.

Due Diligence

Indicators:

Evidence of strategies in place to manage risk and meet due diligence in roadways activities

Evidence of due diligence in the documentation of road operations and construction activities

Examples of diligent practices were identified, but their consistency across field units was difficult to assess.

Managing Risk

As noted above, the most commonly cited priority for both roadway management were safety and reliability, and a review of FII planning documents found evidence that safety risks were considered in funding decisions.

Improvements to risk management processes were also made following the recommendations of the 2017 Audit of the Governance of the FII Program at PCA.

At the operational level, field units responsible for through highways (i.e. category 1 and 2 roads) spent the larger portion of their roadway budgets on winter operations, (e.g. road patrols, ice control, snow removal, and avalanche control) in order to ensure that these roadways were open to traffic.

Diligent Documentation

Due in part to the absence of Agency-wide standards, documentation practices for roadway operations varied among field units (see previous page), making it hard to assess due diligence in this area.

Documents required for capital projects are listed in the Project Management Standard (2016) and the Investment Management Framework, though staff's compliance with these requirements were not assessed by evaluators.

Construction and OHS

While the recent Audit of Occupational Health and Safety at Parks Canada identified gaps in the OHS policy framework for construction sites, auditors noted that good practices were in place for safety documentation.

Required documents found in project files included attestation forms, meeting minutes, safety plans, letters of good standing from provincial health and safety commissions, contractor's OHS policy, and safety related communications between the Agency and contractors.

Due Diligence

Indicators: Evidence of litigation cases defended based on evidence showing compliance with relevant standards

Acknowledging the variations in conditions across field units, the 2010 Evaluation of Through Highways did not recommend that the Agency adopt a single set of standards.

The report called for a consistent approach, stating that: "Whatever standards are adopted they should be legally defensible and publicly accessible so that service expectations are clear to users and stakeholders." (p.40)

Maintenance Standards

For the most part, asset managers reported basing their highway operations on relevant provincial or territorial standards, along with the guidance provided by the 1986 Environment Canada standards noted on the previous page.

The exception to this is the HOU, which uses the Winter Maintenance Standards developed with the 2012 Draft Roadways Directive as the basis for its operations as well as its maintenance documentation process.

Legal Claims

The majority of legal files related to Agency roadways are made in the mountain parks during the winter season. A review of these legal files show that Parks Canada is often successful in defending these claims based on the Highway Operations Unit's consistent documentation practices.

Icefields Parkway (Highway 93), Jasper National Park, 2014

Achievement of Outcomes

Expectations	Findings
The roadway network is safe and reliable	Data were not sufficient to assess this area; field unit staff were confident that roadways were safe for visitors and through traffic.
Field units communicate risks and conditions associated with travel on roadways	Examples of communication strategies and practices were identified; road conditions for highways were available via provincial websites.
Roadways are maintained and improved	There have been significant improvements to Parks Canada roadways, and to highways in particular.
Negative environmental and cultural impacts of roadways are minimized	There was strong evidence that field units were minimizing negative environmental impacts. Examples of engagement with Indigenous communities were identified.

Safe and Reliable Roads

Indicators:

Evidence of reliability of roadways network

Evidence that roadway management contributes to visitor safety

While reliability and safety are prioritized in roadway management, Parks Canada is missing opportunities to benefit from more robust data demonstrating the safety and reliability of its roadways.

Safety and reliability are both an operational priority for field unit staff, and a broader strategic priority for the Agency, as noted in Parks Canada investment plans (see p.17).

Beyond the FII projects, key efforts to make roads safer and more reliable include avalanche mitigation and the highway twinning projects in the mountain parks.

Financial records also show that processes exist for seeking emergency funds for urgent repairs.

Performance Metrics

Past evaluations of highway management and capital projects noted gaps in metrics for both safety and efficiency. Traffic and safety data were to be included in highway performance profiles, but these have not yet been put in place.

Datasets reviewed for this evaluation included reports on motor vehicle accidents, wildlife collisions, closures, and visitor comments, as well as provincial and national highway statistics.

Among these, the Serious Incident Reports (SIR) held the more detailed records of motor vehicle accidents across field units, though data quality issues were still noted (see next page).

Data on road closures were found to be inconsistent. SIRs recorded 11 closures in 2018 (four due to avalanche control), a single closure in 2017, and four in 2015.

Additional closure-related data were obtained from Alberta and BC highway authorities as well as field unit records, covering different spans of time between 2009 and 2018.

Relative to the SIRs, field unit data reflected more seasonal factors, such as closing gravel highways during spring thaws, while the provincial datasets more accurately represented the scale of avalanche control activities.

Taken together, these data provide snapshots of the Agency's performance at various times and locations, but are not sufficient to draw broader conclusions.

Safe and Reliable Roads

Indicator: numbers of human injuries and fatalities

Figure 5 presents the number of Serious Incident Reports (SIR) made in relation to motor vehicle accidents (MVA) on Parks Canada roadways. Field units in Alberta reported the highest numbers, averaging 13.3 per year from 2015 to 2018, followed by field units in the Atlantic region who reported an average of 6.5 MVAs over the same period.

From a total of 103 accidents listed in the SIRs, eight made note of serious injuries, and 24 included at least one fatality.

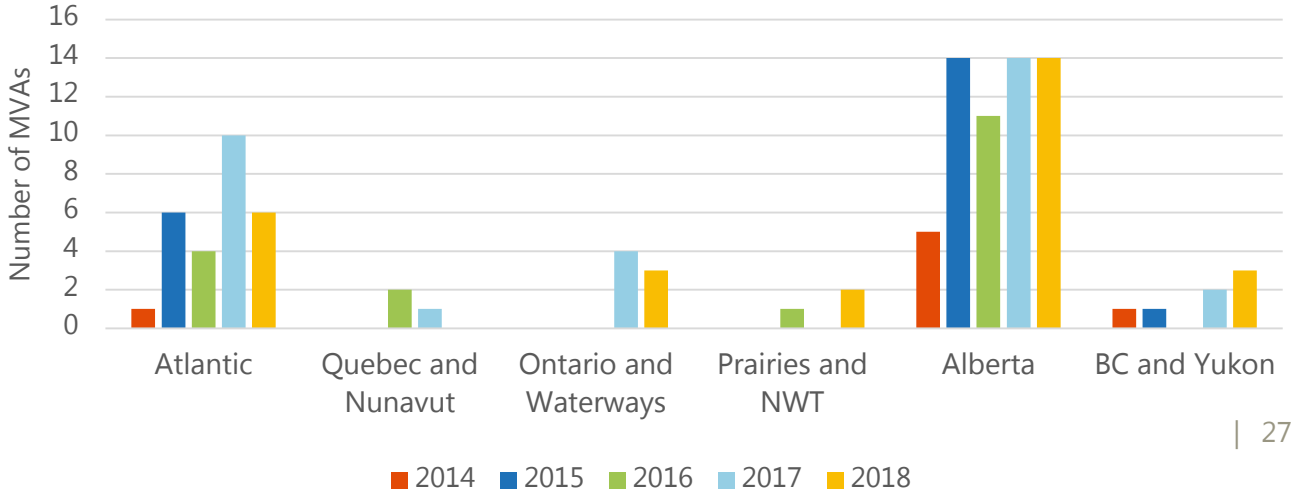
Notes on Data Quality

SIRs are compiled by Parks Canada's Chief Security Officer from reports submitted by field units. Incidents are deemed serious when they could lead to significant consequences to people, assets, ecological or historical resources.

While SIRs provide a general portrait of incidents like MVAs across Parks Canada sites, it was noted that under-reporting can easily occur if collisions do not come to the attention of field unit staff.

While not as acute as the gaps identified for road closures, a comparison of 2018 SIR results with BC provincial highway data of the same year (obtained from www.drivebc.ca) found six major collisions in proximity to Mount Revelstoke or Glacier National Parks that were not recorded in SIRs.

Figure 5: Motor Vehicle Accidents
Serious Incidents Report 2014-2018



Communication Strategies

Indicator: Evidence of communications strategies in place to inform users about risks and conditions on roadways

Strategies and activities were in place to inform visitors and travellers of roadway conditions.

External relations staff at each of the national parks visited (see p. 7) provided examples of processes and tools used to communicate information to travellers on road conditions, delays, risks, or closures.

These included social media posts, signage, media releases, Agency website content and printable materials, such as park maps.

Follow up web searches identified similar products being shared by other national parks.

Sites visited also provided copies of communications plans tied to infrastructure projects, describing target audiences, key messages, and materials.

Information related to provincial highways and segments of the Trans-Canada Highway is also provided to provincial transportation websites, such as Drive BC (drivebc.ca), and 511 Alberta (511.alberta.ca).This includes information on avalanche risks and closures.

Staff at Riding Mountain National Park reported use of a content management system to provide data to 511 Manitoba (manitoba511.ca).

Roadway signage in Riding Mountain National Park and La Mauricie National Park, 2019

Maintained and Improved Roads

Indicator: Proportion of Requests for Project Approval submitted and accepted

The FII initiative saw over $1.2 billion invested in the rehabilitation of Parks Canada' roadways.

As shown in Table 5 below, over $1.2 billion was invested into Parks Canada roadways between 2015 and 2020, across 183 capital projects. These were funded through two investment portfolios created ahead of FII: Highways and CH-VE (Cultural Heritage and Visitor Experience).

This structure served to centralize highway projects, while field units retained leadership for all other built heritage and visitor assets, including road categories 3 to 6.

Highway Portfolio

This portfolio allowed HES to plan and submit project proposals against set levels of funding totalling almost $1 billion. The results of these investments are presented on the next page.

Given the structure of this portfolio, a review of MRT (Milestone Reporting Tool) data, which track progress and expenditures for capital projects, found only a small number of projects listed as rejected (13) or otherwise cancelled (6).

CH-VE Portfolio

As proposals for category 3 to 6 roads fell under the VE portion of CH-VE, they were considered alongside assets like visitor centres and camping facilities.

A review of MRT data found that 57% of all proposed VE projects received funding. An almost identical project approval rate (58%) was found for category 4 to 6 submissions.

Category 3 roads had a higher than average funding rate of 73%, though as Parks Canada has only eight of these roadways, the total pool of submissions (11 in total) was considerably smaller.

Table 5: Funded Roadway Projects by Category (2015 to 2020)

Approved or Completed Projects	Number	Cost (thousands $)
Highways (Categories 1-2)	111	$947,347
Attraction Roads (Category 3)	8	$152,304
Roads (Categories 4-6)	64	$140,708
Totals	**183**	**$1,240,360**

Source: MRT data provided by Strategic Policy and Investment, September 2020

Maintained and Improved Roads

Indicator: % of roadway assets and related assets in poor condition or very poor condition that have improved

The FII initiative allowed Parks Canada to make significant improvements to its roads and highways.

As a result of the FII initiative, roadway assets have gone from 58% of roads' current replacement value (CRV) in poor or very poor condition to 20% in 2019. Vehicular bridges also improved, moving from 52% in poor or very poor condition to 38% in 2019.

Figure 6 below shows particular improvements in the condition of highways and special attraction roads, with the upturn for the Trans-Canada Highway (TCH) segments being especially striking. Results are not as marked for categories 4 to 6 roads, despite a number of projects focused on these assets (see previous page).

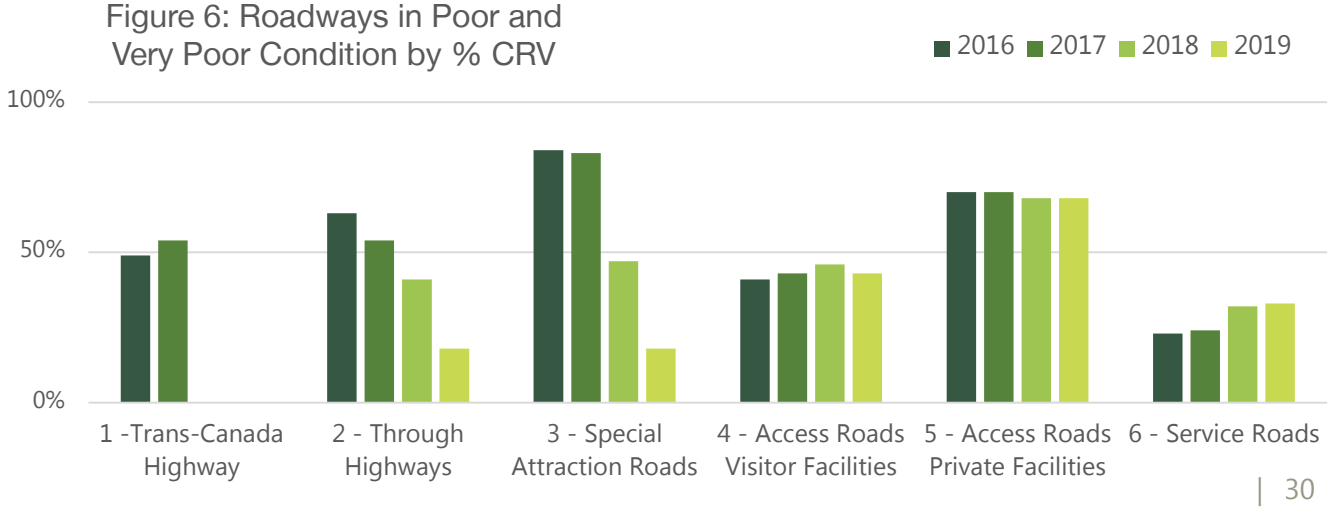
Looking Ahead

While the results of the FII initiative were significant, findings from investment plans as well as interviews with asset managers and HES staff noted several ongoing challenges for roadway management.

These included the Agency's remaining backlog of deferred maintenance (see page 37) and the 97 km of Trans-Canada Highway yet to be twinned in the mountain parks, for which funding has not been identified.

Concerns related to climate change were also noted, with issues such as resiliency to flooding, faster deterioration of road surfaces, and questions about the adaptability of the existing infrastructure being raised.

Figure 6: Roadways in Poor and Very Poor Condition by % CRV



Source: Parks Canada Asset Report Cards 2016 to 2019

Environmental Impacts

Indicators:

Evidence of completed impact assessments

Evidence of compliance with impact assessment results

A file review found that roadway staff have been diligent in applying impact assessments.

A file review provided evidence that impact assessments, the majority of which were prepared for FII projects, were completed as required with appropriate actions taken to mitigate environmental impacts.

Field unit staff reported that contractors typically complied with requirements for FII roadways projects though follow-ups were sometimes needed.

Resource Conservation staff also noted that the more formal project structures required by the FII initiative had fostered a more consistent application of mitigation measures, when compared to smaller or more routine projects, such as seasonal culvert maintenance.

Lastly, the review of completed impact assessments found inconsistencies in retaining surveillance logs, which were available for most but not all of the available files, as summarized in Table 6.

Table 6: Impact Assessments Provided by Field Units

Field Units	BMPs	BIAs	Mitigation Measures Proposed	Surveillance or Monitoring Documentation Available
Banff	1	1	☑☑	☒☑
Yoho		2*	☑☑	☒
Mount Revelstoke and Glacier		2	☑☑	☑☑
Jasper		4	☑☑☑☑	☑☑☑☑
Terra Nova		4	☑☑☑☑	☒☒☑☑
Riding Mountain		3	☑☑☑	☑☑☑
La Mauricie		5	☑☑☑☑☑	☑☑☒☑☑
Total	1	21	22/22 impact assessments proposed mitigation measures	16/21 impact assessments provided evidence of surveillance or monitoring documentation

*Only one of the two impact assessments for Yoho NP required surveillance or monitoring.

Environmental Impacts

Indicator: Incorporation of features to minimize environmental impact of roadways

A variety of features designed to minimize environmental impact were identified during site visits and in project documentation.

A file review of twenty Basic Impact Assessments found that measures to minimize environmental impacts were widely incorporated in FII roadway projects. These included practices designed to mitigate the impacts of the construction projects and features designed to minimize the impacts of the built assets themselves.

Information gathered during site visits also noted the implementation of experimental measures, such as the installation of raised ledges within culverts, designed to help smaller wildlife to move through when water levels are high.

Other features observed by evaluators included wildlife crossing structures in the mountain parks, such as additional fencing, underpasses, and overpasses.

Efforts to improve aquatic connectivity were also noted (see images to the right), as well as new road signage meant to alert drivers to the presence of species at risk.

Image: A culvert before and after major rehabilitation in La Mauricie National Park, 2019. Among other features, the culvert was made deeper to help aquatic life cross through.

Cultural Impacts

Indicators:

Evidence of meaningful consultations with indigenous communities

Evidence of compliance with and incorporation of recommendations of impact assessments

Impact assessment files and interviews provided evidence of consultations initiated on a case-by-cases basis.

Cultural Resources

Roadway construction can pose a particular risk to archaeological resources, with Environmental Surveillance Officers typically acting as the main point of contact should anything be uncovered.

Impact assessments reviewed in relation to the FII initiative typically reported low risks to cultural resources, as most projects did not require digging out beyond the existing roadway.

Consultations

Consultations are most often incorporated when expanding the footprint of roadway assets (e.g. new lanes or overpasses), while replacement projects often have a low consultation requirement and are assessed on a case-by-case basis.

Overall, there was evidence of due consideration being made to engage Indigenous communities in roadway projects and consult when necessary.

Riding Mountain NP

The most extensive consultation identified during site visits was in Riding Mountain NP.

In preparation for the Highway 10 rehabilitation, an Anishinabe elder from Keeseekoowenin Ojibway First Nation was invited to toured the site in 2015 to help assess impacts on Indigenous communities and share knowledge about the ecosystem.

Following on the Elder's recommendation, staff held ceremonies prior to new excavations as part of the project's impact mitigations.

The Riding Mountain Field Unit also implemented a Procurement Strategy for Aboriginal Businesses, through which two projects to rehabilitate Highway 10 were awarded to Indigenous contractors.

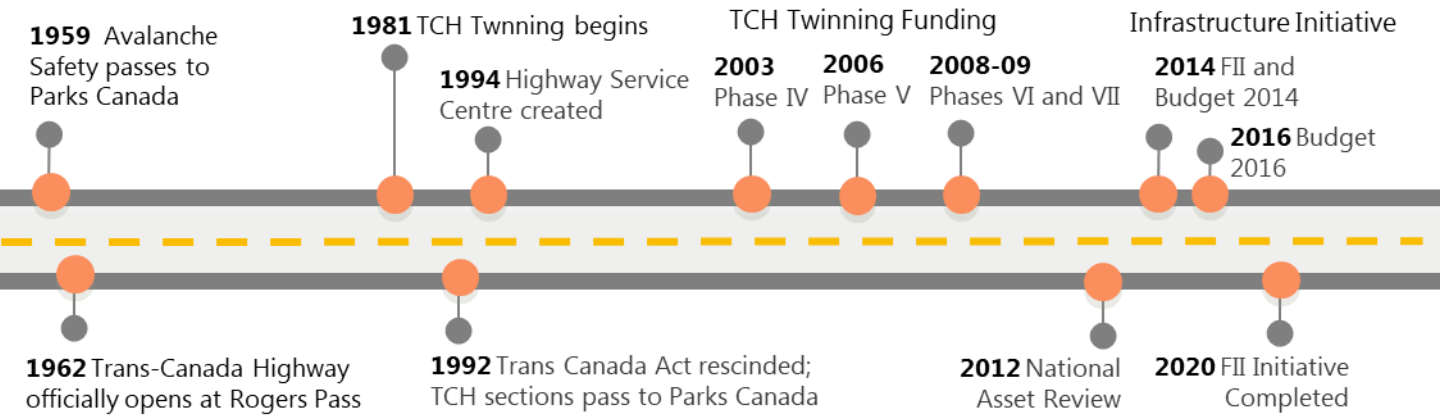
Other projects in Riding Mountain NP utilized an Indigenous Benefits Package as a basis for Indigenous engagement and inclusion.

Efficiency and Funding

Expectations	Findings
Efficient management of roadways	The roadway inspection program does not have stable funding, which will eventually limit the Agency's ability to manage efficiently and make strategic investments.
Roadway funding is sustainable	At present levels, funding is insufficient to sustain roadway assets and address deferred work.
Roadway management activities are resourced to meet demands	Financial analyses, supported by case study and interview results, found that roadways are not resourced to meet demands.
Funding is sufficient to manage roadways without impacting other activities	Case study and interview evidence show that roadway funding levels can have negative impacts on the planning and delivery of visitor programs, asset management, or other activities within field units.

Background: Parks Canada Roadway Funding

Figure 7: Funding timeline (1959-2020)



The challenges experienced by Parks Canada in funding roadway maintenance have roots that extend back over decades, as the Agency slowly acquired the extensive built asset portfolio, i.e. roads, waterways, visitor facilities, and heritage structures, it now maintains (see also p. 47, Brief History of Parks Canada Roadways).

In 1956, highway planners picked Rogers Pass as the Trans-Canada Highway's mountain path. By 1960, Parks Canada had taken responsibility for the avalanche control program and was starting to acquire provincial highways crossing through national parks across Canada.

By the 1970s, the mountain parks' high visitation had exceeded the highways' intended usage levels, causing delays and financial pressures as the road surfaces declined ahead of schedule.

The high traffic on the two-lane highways also led to concerns over public safety and wildlife collisions. Funding from Public Works and Government Services Canada supported the first phases of the TCH twinning program in 1981. New phases were added as made possible by various federal infrastructure programs and initiatives.

In 1992, legislative changes saw in-park sections of the TCH transferred to Parks Canada, without added resources for maintenance or upgrades. Efforts to find efficiencies in the mountain parks led to the Highway Service Centre, designed to centralize expertise and reduce costs.

By 2012, a review of built assets found that many years of deferred roadway maintenance across Parks Canada had resulted in the marked deterioration of roads, bridges, and highways.

In 2014 and 2015, the federal government announced historic investments in Parks Canada built assets, including over $1 billion allocated to rehabilitate Parks Canada's roads over a five-year period.

Efficiency

Parks Canada's financial coding structure separates expenditures on highways from those of category 3 to 6 roads, which are coded as visitor experience items. This makes it difficult to assess Agency-wide spending.

Moreover, even if focused on highways only (see annex p. 47), variations in traffic, terrains, climate, and service delivery models make it difficult to establish a framework for evaluating management efficiency.

Indicator: Evidence of efficient management of roadways

The FII Initiative

A review of Parks Canada's Investment Plan as well as inspection reports and past evaluations did highlight actions taken to enhance the efficiency of roadway operations.

In particular, the FII projects allowed Parks Canada to strategically rehabilitate roadways that, due to their poor condition, consumed increasing amounts of time and resources simply to keep them open. Field units also leveraged the presence of construction crews to carry out other needed road work at a reduced cost.

A road closed for construction in La Mauricie National Park, 2019

Efficiency

Indicator: Evidence of efficient management of roadways

Challenges in the area of deferred work will continue to limit the Agency's ability to invest in preventative maintenance.

Deferred Maintenance

Despite these gains, Parks Canada still faces a large backlog of deferred work, shown in Table 7.

As maintenance budgets return to pre-FII levels, there also remains over 90 km of highways yet to be twinned in the mountain parks, with no identified funding.

These factors could again limit the Agency's ability to invest in preventative maintenance, which is more efficient over the long-term as resources are directed towards lesser defects before they grow into costly deficiencies.

Roadway Inspections

Key to monitoring the state of the Agency's roadway assets, Parks Canada's road inspection program is not currently funded beyond March 31, 2022.

Covering all road categories, bridges, and related structures such as culverts and snow sheds, inspection results are also used by Highway Engineering Services to plan capital investments into roadways.

Table 7: Deferred Work Parks Canada Roadways (2019)

Road Categories	Deferred Work ($,000)
Trans-Canada Highway	$172,049
Through Highways	$186,064
Special Attraction	$198,884
Visitor Access Roads	$150,741
Private Access Roads	$19,029
Service Roads	$12,730
Total	**$739,497**

Source: Parks Canada Asset Report Card 2019

View of Newman Sound from Mount Stamford, Terra Nova National Park, 2016

Sustainable Funding Case Study: Terra Nova National Park TCH Passing Lanes Project

Terra Nova NP and the Trans-Canada Highway

Section of map showing the Trans-Canada Highway passing through Terra Nova National Park.

On the northeastern coast of Newfoundland, the Trans-Canada Highway (TCH) and two provincial highways pass through the boundaries of Terra Nova National Park.

Completed in 1960 as an undivided two-lane roadway, the steep terrain and growing presence of transport trucks routinely caused significant delays on the highway. In turn, the slow downs led some drivers to engage in what a 1978 study of the highway described as “high-risk passing manoeuvres”.

Submitted in April of 1978, this study of the capacity and safety of the TCH through Terra Nova NP proposed the addition of ten climbing lanes, 22 kilometers in total length, to help traffic flow and reduce the risks to public safety. The study also advised another six climbing lanes, to be built by 1987.

The project was not adopted. After many years spent advocating for the needed expansion, the field unit was finally able to increase the driving surface of the TCH in 2017, using funds from the FII initiative.

In the end, 13 new climbing lanes were built, largely in the same locations as those recommended in 1978. The FII funds also allowed the field unit to repair bridges and culverts and improve turning and intersection lanes.

The $45 million TCH expansion has improved traffic flow, contributed to visitor safety, and allowed for safer passage for wildlife.

However, maintaining the added 39 lane-kilometres has created significant and predictable financial challenges for the Eastern Newfoundland Field Unit, which will be explored in this section of the report.

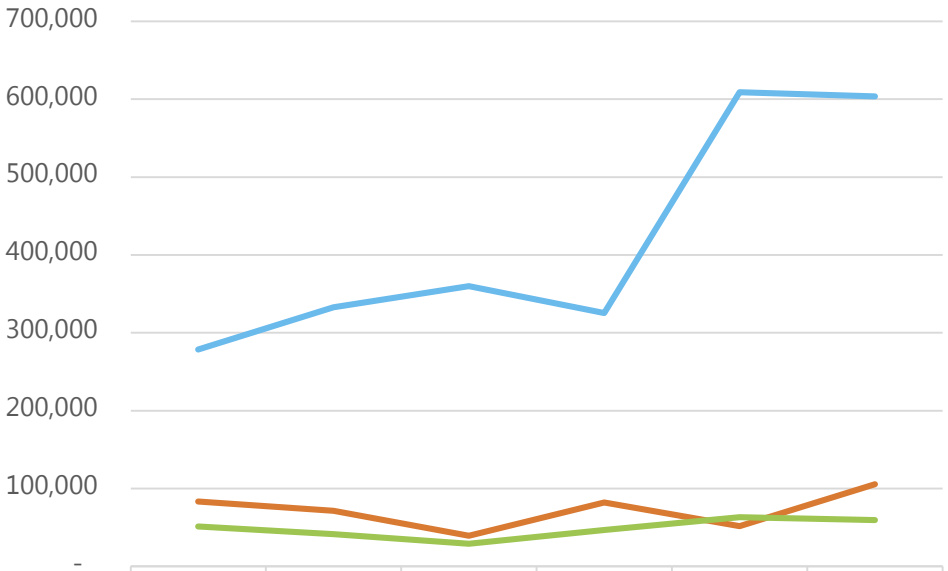
Terra Nova NP
Case Study

Due to Parks Canada's public safety duties, highway expenditures are non-discretionary. During the winter season in particular, field units must ensure that operational activities (snow removal, ice controls, safety patrols, etc.) are in place, and that any critical repairs, such as fixing a sink hole, are carried out regardless of A-base funding limits.

As the Eastern Newfoundland field unit delivers its roadway operations directly, it also requires its own fleet of heavy equipment and related vehicles. These are costly items, not only to purchase but also to fuel and maintain.

Road salt is a particularly significant expenditure for the field unit, as illustrated by Figure 11. With the new passing lanes, spending on road salt increased by over $280,000 in a single year. Vehicle repair and fuel costs also trended up, though not as much as the increase in road salt expenditures.

Figure 8 : Key Highway Operation Expenditures, Terra Nova NP



	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Vehicles -Maintenance and Repairs	83,357	71,563	39,426	81,952	51,795	105,520
Vehicles -Fuel	51,411	41,440	29,246	46,845	63,249	59,395
Highway Salt	278,524	332,658	359,820	325,405	608,787	603,594

Terra Nova NP
Case Study

The largest portion of the field unit's budget is allotted to highway operations and maintenance, which in 2018-19 accounted for 48% of their A-base goods and services budgets.

An analysis conducted by the field unit projected ongoing expenses to increase by $453,000 per year to meet operational requirements.

Table 8 places the increases noted on the previous page in their broader context.

This includes increases in salaries and wages due to the need for more heavy equipment operators, an additional heavy equipment mechanic, and more road maintenance staff. This doubled the proportion of salary costs related to the highway from 2016-17 to 2018-19.

Due to these events, the field unit requested emergency funding to cover the shortfall. While received each year assessed, field unit staff had to begin each fiscal year with an identified deficit, with no formal guarantee that funds would again be allocated to meet the financial pressure (worth noting, emergency funds for 2020-21 were provided at the start of the fiscal year).

This created staffing challenges, as the field unit relies on a number of additional term positions to deliver highway operations, with the ability to create permanent positions limited by the available confirmed funding levels.

This has led to high turn over, and ongoing staffing processes and training.

Lastly, the instability created for the field unit was not limited to roadway activities.

In particular, planning for expenditures on cultural asset conservation and visitor experience programs has been impacted, as the field unit's strategic plans must take the annual potential shortfall into account.

Table 8: Eastern Newfoundland Field Unit Compared Highway Expenditures

Goods and Services	2016-17	2017-18	2018-19
A-base allocations	$1,800,831	$1,892,677	$1,786,939
Highway Expenditures	$497,893	$798,567	$854,544
% of A-base used	28%	42%	48%
Salary and Wages	**2016-17**	**2017-18**	**2018-19**
A-base allocations	$4,128,545	$4,128,545	$4,107,092
Highway Expenditures	$179,255	$275,639	$329,339
% of A-base used	4%	7%	8%

Source: Terra Nova National Park Business Case

Discussion: Sustainable Funding

While the climbing lanes project was unique in some aspects, its impacts illustrate a number of recurring issues in the funding of roadway operations, maintenance, and construction within Parks Canada.

Climbing Lanes and FII

Among FII projects, the climbing lanes stand out in that they added to the original highway, instead of only fixing or rehabilitating what was already in place.

Recalling the transfer of TCH sections to Parks Canada without additional funding (see p. 37), Terra Nova NP's shortfall was ultimately predictable. The climbing lanes increased the highway's lane-kilometers by 47% while maintenance budgets stayed the same.

Future Costs

This case study highlights Parks Canada's reliance on large injections of funding to maintain its roads, and its tendency to move ahead without addressing future costs.

Both of these contribute to the build-up of deferred work (noted on p. 36) and a cycle of decline and repair that limits field units' ability to engage in more efficient forms of management, such as investing in preventative maintenance.

Priority Expenditures

The need to prioritize highway operations over other activities was another common theme, particularly among field units that maintain larger roadways in relative isolation from other parks or urban centres.

This sub-set reported similar challenges in budgeting for important visitor experience programs or other asset management activities, while keeping in reserve the resources required to manage unexpected repairs or higher expenditures due to a particularly hard winter.

These field units also noted similar issues with retaining staff, and failing that, with managing the frequent training of new hires.

The third shared challenge reported by the field units was in procuring and maintaining the heavy equipment needed to keep the highways open, as a single purchase can deplete a field unit's yearly capital budgets.

Recommendations

Recommendation 1: Directives and Guidelines

The Senior Vice-President, Operations, should ensure that clear policy direction and standards are in place for roadway operations, maintenance, and construction. Consideration should be given to the variations in operating conditions (climate, road types, etc.) across field units; maintenance standards in particular should account for local conditions and be legally defensible, while aligning with the larger Parks Canada roadway policy.

Management Response

Agreed. The Operations Directorate will prepare a Roadway Standard for approval. The Agency's new Real Property Management Directive that is required by Treasury Board by May 2022 will include direction relating to the management of roadway assets. The deliverable for the Real Property Management Directive is included in the response to Recommendation 2.

Deliverables	Timeline	Responsible position(s)
1.1 Highway Engineering Services will update the existing Draft Roadway Standards for approval of the Senior Vice-President of Operations. The Standards will address roadway operations, maintenance and construction across roadway types and operating conditions. In addition, maintenance standards will account for local conditions.	December 2022	Director, Asset Project Management, Operations Directorate

Recommendation 2: Roles and Responsibilities

The Senior Vice-President, Operations, should ensure that accountabilities, roles, and responsibilities are clear and well documented for all functional units with impacts on roadway activities. Consideration should be given to clarifying accountabilities, roles, and responsibilities for: roadway maintenance and capital projects; strategic asset management, including asset data management and quality assurance; investment planning for roadway categories 1 through 6; and roadway operations, particularly in areas where multiple functional units (e.g. HES, the HOU, and field units) operate in close proximity.

Management Response

Agreed. The Senior Vice-President of Operations will provide direction on authorities, accountabilities, roles and responsibilities related to roadway management to be incorporated into a new Real Property Management Directive for the Agency. The Strategic Policy and Planning Directorate will ensure the direction is incorporated into the Real Property Management Directive.

Deliverables	Timeline	Responsible position(s)
2.1 The Senior Vice-President of Operations will approve a document outlining accountabilities, authorities, roles and responsibilities within the Operations Directorate relating to Roadway Management. This document will leverage Parks Canada's roadway management expertise and address all aspects of Roadway Management including inspection, capital planning, life-cycle management and roadway maintenance delivery models.	August 2022	Senior Vice-President of Operations, Operations Directorate
2.2 The accountabilities, authorities, roles and responsibilities as approved by the Senior Vice-President of Operations will be integrated into the Agency's new Real Property Management Directive by the Strategic Planning and Policy Directorate.	June 2023	Director, Portfolio and Asset Management Services, Strategic Policy and Planning Directorate

Recommendation 3: Performance Measures

The Senior Vice-President, Operations, and the Vice-President, Strategic Policy and Planning, should ensure that key performance metrics for highways and roads are identified, collected, and monitored. Consideration should be given to Parks Canada's capacity to collect robust performance metrics for both safety and reliability, such as traffic counts, vehicle classification, collision data, and safety audits.

Management Response

Agreed. The Operations Directorate will work with the Strategic Policy and Planning Directorate to review existing performance metrics and identify any additional performance metrics that should be collected and monitored with consideration given to cost of collecting and usefulness of data. The review will include the identification of who is responsible for collecting, compiling and reporting on each performance metric and will be formalized in the Roadway Standards.

Deliverables	Timeline	Responsible position(s)
3.1 The Strategic Planning and Reporting Branch (SPP) will provide a current inventory of performance metrics related to roadway management to Operations for review including the origin of each performance metric and the identified responsible position.	June 2022	Director, Strategy and Performance, Strategic Policy and Planning Directorate
3.2 Highways Engineering Services (OPS) in coordination with Strategic Planning and Reporting Branch and Portfolio and Asset Management Services (SPP) will recommend any changes or additional performance metrics including precision on who within the agency is responsible for collecting, monitoring and reporting on each performance metric. Recommendations will consider cost of collecting and usefulness of data.	April 2023	Director, Asset Project Management, Operations Directorate Director, Strategy and Performance, Strategic Policy and Planning Directorate Director, Portfolio and Asset Management Services, Strategic Policy and Planning Directorate
3.3 A performance metric plan for roadway management is endorsed by senior management and documented in the Roadway Standards.	June 2023	Director, Asset Project Management, Operations Directorate

Recommendation 4: Support for Planning and Maintenance Strategies

Leveraging Parks Canada's roadway expertise, the Senior Vice-President, Operations, should consider means to support field units in analysing inspection data, capital planning, life-cycle management and roadway maintenance delivery models. Consideration should be given to assisting field unit staff in preparing for the effects of returning to pre-FII funding levels, and preparing their sites and infrastructures for the impacts of climate change.

Management Response

Agreed. The recommendations brought forward to the Senior Vice-President of Operations relating to authorities, accountabilities and roles and responsibilities related to roadway management (Recommendation 2) will consider the roadway expertise within the agency and how to most effectively leverage this expertise to support the agency in all aspects of roadway management including inspection, capital planning, life-cycle management, roadway maintenance delivery models and preparing for climate change.

Deliverables	Timeline	Responsible position(s)
4.1 Until accountabilities, authorities, roles and responsibilities are formalized in deliverable 2.1, Parks Canada will leverage its existing expertise in Highway Engineering Services and delegate authority for category 1-3 roadways and associated assets related to Strengthening Investment Readiness initiatives.	October 2021	Senior Vice-President of Operations, Operations Directorate
4.2 See deliverables for Recommendation 2 for longer term deliverables relating to authorities, accountabilities and roles and responsibilities related to roadway management.	June 2023	Director, Portfolio and Asset Management Services, Strategic Policy and Planning Directorate

Annexes

Brief History of Parks Canada Roadways

"If the idea of the national park dates to 1887, and its agency to 1911, then the national park landscape we have inherited really belongs to the interwar period, when the new automobile culture consistently shaped park design."

C.E. Campbell, *Governing a Kingdom: Parks Canada, 1911-2011*, A century of Parks Canada, 1911-2011 (p.5)

Road building was a key pursuit of the Dominion Parks Branch, Parks Canada's first incarnation. Between 1911 and 1936, Parks Branch engineers oversaw the creation of nearly 1,000 km of roads, highways, and scenic parkways, as well as automobile-friendly campgrounds.

While scenic parkways featured prominently in the parks' early tourism guides, highways and provincial roadways became key factors in establishing new national parks, with lasting impacts on both Canada's park and road systems.

Roadway development slowed during the war years, but saw rapid expansion in the 1950s, as more Canadians were able to own automobiles. For many national parks, this meant more roads, highways, and tourism facilities. In 1956, Rogers Pass was selected as the mountain path for the new Trans-Canada Highway.

In the 1960s, the high visitation levels afforded by the new roadways raised concerns over environmental impacts. By the 1970s, the impacts of high usage were visible on the roads themselves, leading to efforts to twin the highways through the mountain parks starting in 1981.

By the late 1990s and early 2000s, roadway management at Parks Canada had grown beyond building roads, to include highway and avalanche management, active environmental impact mitigations, and the recognition of the Agency's duty to consult with Indigenous communities.

Riding Mountain's East Gate National Historic Site is the last of three park entrances built in the 1930s as part of depression relief programs.

The gates were designed to welcome motorists as they arrived at the Park's edge and are now a reminder of the importance of motor tourism to the National Parks.

Link to image source: https://www.pc.gc.ca/en/lhn-nhs/mb/eastgate/decouvrir-discover

Highway Expenditures

Expenses coded to the Highways from 2014 to 2019, all figures are in the thousands.

Table 9: Parks Canada Highway Expenditures (2014 to 2019)

Fund Names	2014-15	2015-16	2016-17	2017-18	2018-19
Regular Operations - A-Base	$18,794	$18,206	$17,588	$18,181	$21,917
A-Base Investments in assets	$2,172	$6,586	$5,804	$3,509	$2,038
Parks Employees Benefits Plan	$1,417	$1,514	$1,497	$1,512	$2,058
FII Projects -Operating	-	$262	$139	$242	$348
FII Projects- Investments Asset	-	$90,802	$143,780	$137,743	$99,309
B2014 Investments in assets	$39,548	$93,705	$39,056	$31,071	$33,977
B2017 High-Priority Assets - Investment	-	-	-	-	$1,188
Centralized Investments in Assets Operating	$8	-	-	$101	$313
Centralized Investments in Assets	$25,516	$3,845	$19,054	$47,793	$26,722
Financial Pressures (2019-20+) / Other Supp. (<2019-20) - Operating	$341	$12	$6,071	$1,304	$700
Financial Pressures (2019-20+) / Other Supp. (<2019-20) - Investments	$1,500	$1	-	-	-
Conservation & Restoration (Assets)	$9	$6	$240	-	-
Cost Sharing Program	-	-	-	$46	-
YCW & Green Jobs Initiatives	-	-	$17	$8	-
New Parks & Sites Operating	-	-	$19	$3	-
Total Yearly Expenditures	**$89,305**	**$214,939**	**$233,265**	**$241,513**	**$188,571**

Source: Parks Canada Chief Financial Officer Directorate, 2020

Figure 9: Roadway Operations Process Map

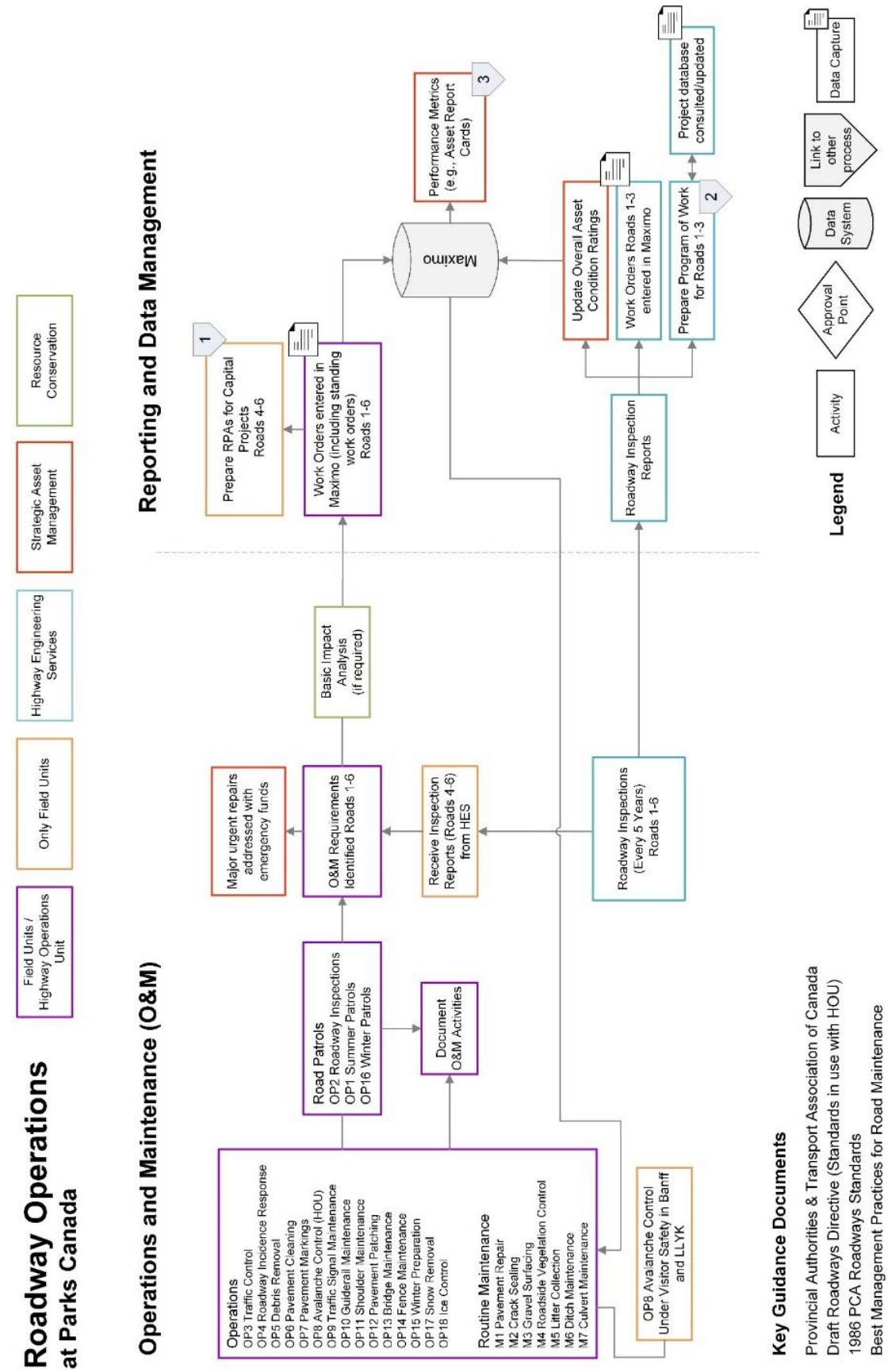


Figure 10: Roadway Capital Projects Process Map