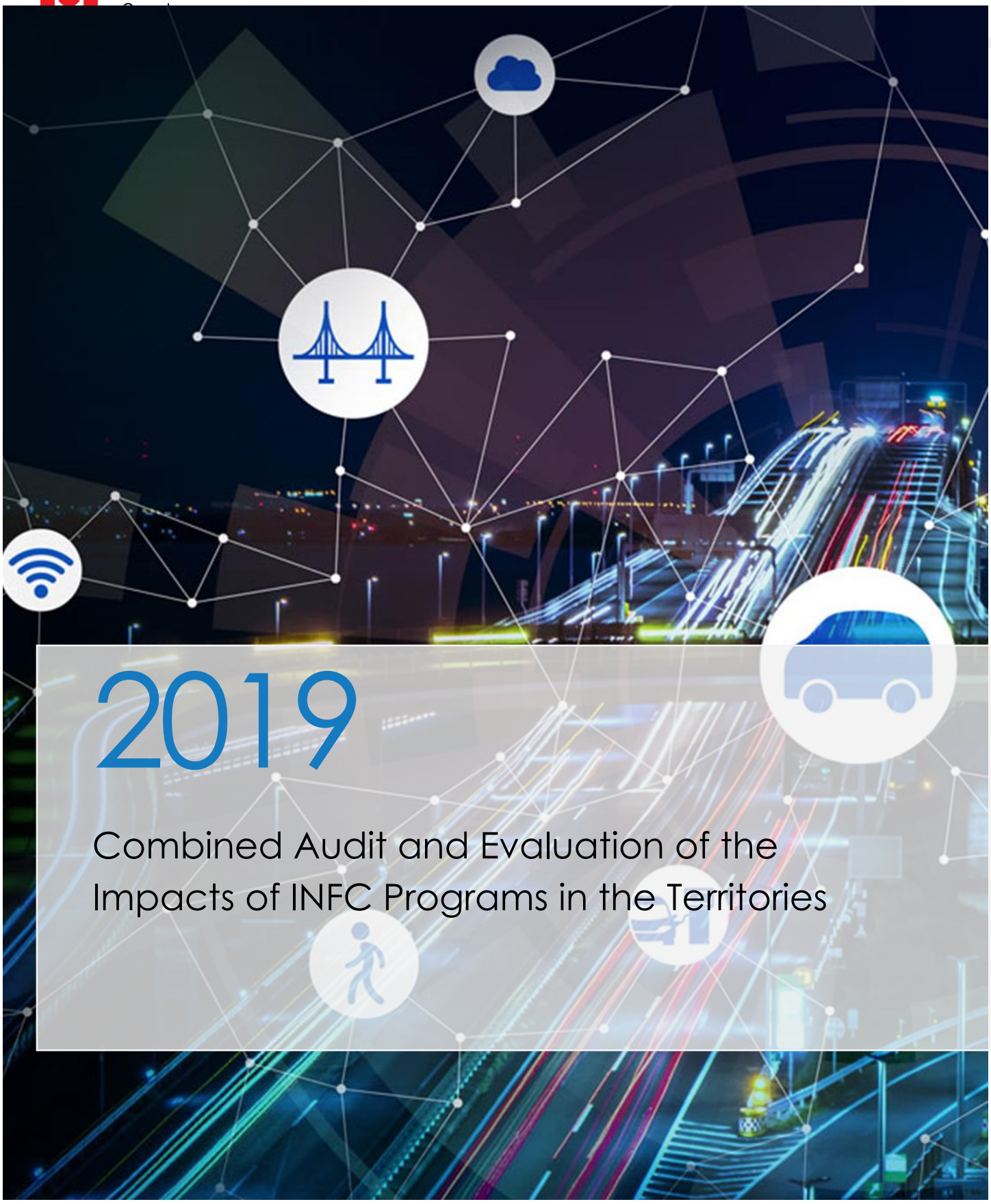
Infrastructure



2019

Combined Audit and Evaluation of the Impacts of INFC Programs in the Territories

Canada

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1. Executive Summary

Objective and Scope

This engagement was a combined internal audit and evaluation of Infrastructure Canada's (INFC) contribution programs in the three territories. The overall scope covered most INFC contribution programs with projects in the territories between April 1, 2007 and March 31, 2018; however, some elements examined a narrower time period, or specific programs.

The objectives of this combined engagement were to:

- Provide reasonable assurance that the design of the management control frameworks in place to manage INFC contribution programs delivered in the territories is adequate and effective and in compliance with the Treasury Board *Policy on Transfer Payments*;
- Evaluate the extent to which INFC has met the infrastructure needs of the territories over the last ten years; and
- Assess the impacts of INFC's programs delivered in the territories in view of their particular socio-economic and geographic context.

Key Findings and Conclusion

The Audit and Evaluation Branch concluded that:

- Overall, the design of the management control frameworks is adequate and in compliance with the Treasury Board *Policy on Transfer Payments*, but there are opportunities to improve the effectiveness.
    - There is an effective project submission and review process in place within INFC for the territories. There is also a good governance structure in place at INFC to make decisions on eligibility or other issues.
    - Ongoing monitoring and project risk management can be strengthened.
    - There is an opportunity to improve guidance to analysts in how to review reporting and claims.
- INFC's programs have met the infrastructure needs of the territories over the last ten years. The adaptation measures that INFC has taken to address the challenges of the territories have been effective. The design elements that seem to work best for the territories are broad eligible funding categories, and a funding formula that includes:
    - a base amount;
    - streamlined administration and reporting requirements; and
    - access to additional administrative funds.
- INFC's programs have contributed positively to the expected outcomes of long-term economic growth, stronger communities, and a cleaner environment. As well, territories have increased their

long-term planning and asset management capacity.

Recommendations

To improve the effectiveness of the management control frameworks in place to manage INFC's contribution programs delivered in the territories, it is recommended that the Assistant Deputy Minister, Program Operations Branch:

1) Ensure that the Oversight Committees for the territories are meeting all of their requirements as set out in the Terms of Reference or Contribution Agreements, including:
    - Terms of Reference are available and signed by both co-chairs for each oversight committee;
    - The frequency of Oversight Committee meetings, as specified in agreements, be respected; and
    - An audit plan be established and approved, as required.

2) Ensure that ongoing project monitoring, including any required reassessment of risk, is adequately performed and documented. If the existing tools (e.g. the risk assessment tool) do not meet the specific needs of projects in the territories, alternative methodologies should be documented and approved.

3) Establish a quality assurance function that reviews project files to ensure compliance with established guidelines and procedures.

4) Establish an approach to ensure that performance and results data are reliably and consistently collected across ongoing and future program recipients and other sources. As part of this approach, ensure that: Contribution Agreements for ongoing and future programs outline reporting requirements aligned to INFC indicators and outcomes that program officers are able to monitor that the performance data submitted to INFC are in accordance with the Contribution Agreements requirements; and data is identified and collected that will allow assessment of current program and departmental ultimate outcomes.

2. Introduction

The notion that adequate and properly functioning infrastructure enhances economic development and stronger communities has long been valid. Research undertaken over the past decade indicates a robust causal relationship between public infrastructure investment and growth in productivity.

The 2016 Canadian Infrastructure Report Card found that one third of Canada's infrastructure is in fair, poor or very poor condition, increasing the risks of service disruption.[1]

The territories are facing infrastructure challenges that are exacerbated by their socio-economic and geographic factors. These include: extreme isolation; the remoteness of communities; a shorter and highly variable construction season; limited human resource availability and capacity; limited access to capital; and the growing demands on aging and existing infrastructure, worsened by climate change (e.g. melting permafrost, rising sea levels, and an increase in severe weather events).[2] While there are exceptions, the state of infrastructure in the territories is generally worse than elsewhere in Canada, particularly within Yukon and Nunavut. As per Canada's Core Public Infrastructure (CCPI) survey conducted in 2016, Nunavut and Yukon are below the national average when it comes to the condition of infrastructure assets in almost all categories. While the Northwest Territories had more variable results, it exceeded the national average more often than its territorial counterparts.[3] For more information on the territories and their unique socio-economic and demographic factors, please refer to Annex A.

Between 2007-08 and 2017-18, INFC transferred federal funding of approximately $30 billion for over 35,000 projects across Canada. During that period the three territories received $1.6 billion towards 1,156 projects. Detailed information on the programs included in this joint engagement can be found in Annexes B and C.

Organized by region, the Program Operations Branch (POB) at INFC delivers all aspects of the programs examined in this engagement. Regional analysts are responsible for nearly all INFC programs within their assigned region. That said, high-level policy and program design is the responsibility of the Policy and Results Branch.

[1] Canadian Infrastructure Report Card 2016. In this report the territories are not included. The infrastructure assets that were assessed include potable water, wastewater, storm water, roads, bridges, sports and recreation, public transit and municipal building.
[2] Study on Addressing the Infrastructure Needs of Northern and Aboriginal Communities. Centre for the North at the Conference Board of Canada, 2014; Recommendations on Northern Infrastructure to Support Economic Development. National Aboriginal Economic Development Board, January 2016.
[3] The assets that were looked at as part of the CCPI were solid waste management, wastewater, potable water, social housing assets, roads and highways, bridges and tunnels, culture, recreation and sports facilities and public transit.

3. Combined Approach

This engagement is a pilot project that combined an internal audit and an evaluation. This approach was selected to help increase efficiencies in data collection and reduce the burden on respondents. Audit and evaluation professionals worked to consolidate their processes and use comparable research practices, as well as identify linkages between the functions that may not have been apparent. At the same time, certain elements, such as scope and specific procedures, were treated differently in order to meet professional practice standards.

While the focus of this engagement was on INFC's programs in the territories, some findings, particularly the audit findings, may also be applicable to provinces.

3.1 Scope and Objectives

The evaluation portion of this engagement focused on the period between April 1, 2007, and March 31, 2018 and examined the following older programs, with projects in the territories, to address their progress towards expected outcomes, including impacts on communities:[4]

- Canada Strategic Infrastructure Fund (CSIF)
- Municipal-Rural Infrastructure Fund (MRIF)
- Gas Tax Fund (GTF)
- Provincial-Territorial Infrastructure Base Fund (PT Base)
- Infrastructure Stimulus Fund (ISF)
- Green Infrastructure Fund (GIF)
- Inuvik to Tuktoyaktuk Highway Program (ITH)

The following newer programs were also examined for design and delivery issues:

- New Building Canada Fund (NBCF), which has three components:
    - National Infrastructure Component (NIC)
    - Provincial Territorial Infrastructure Component – National and Regional Projects (NRP)
    - Provincial Territorial Infrastructure Component – Small Communities Fund (SCF)
- Phase I of the Investing in Canada Infrastructure Program which has two components:
    - Public Transit Infrastructure Fund (PTIF)
    - Clean Water and Wastewater Fund (CWWF)

The audit portion of this engagement focused on the four-year period between April 1, 2014, and March 31, 2018, and examined four programs (CSIF, NBCF, PTIF and CWWF) in terms of the management controls related to governance, risk management and internal controls for these transfer payments.

[4] See Annex B for Program Profiles.

The objectives of this engagement were to:

1) Provide reasonable assurance that the design of the management control frameworks in place to manage INFC's contribution programs delivered in the territories is adequate and effective and in compliance with the TB *Policy on Transfer Payments;*

2) Evaluate the extent to which INFC has met the infrastructure needs of the territories over the last ten years; and

3) Assess the impacts of INFC's programs delivered in the territories in view of their particular socio-economic and geographic context.

3.2 Methodology

The engagement used multiple lines of evidence drawing on both qualitative (e.g. interviews, document and literature review, and site visits) and quantitative data (e.g. administrative and financial data review). Other methodologies, such as comparative analysis, were also employed. The methodology used was tailored to the nature and availability of the data. Further information on the methodology can be found in Annex D.

Limitations and Mitigation Strategies

There were two important limitations associated with this joint engagement:

- Lack of performance data: Data related to program outcomes were not part of INFC legacy program requirements and, therefore, not available in program reports from provinces and territories, nor collected separately from other sources. Under most of INFC's program's contribution agreements, provinces and territories are required to provide progress reports and a final report. When and where reports were available, they often did not include sufficient information on progress towards outcomes, and when available given differing methodologies, aggregation was not possible. These factors resulted in limited available quantitative performance data for this engagement. This was addressed by using multiple lines of evidence noted above and triangulating the evidence gathered from each. These lines of evidence included a total of nine case studies selected to be representative of the diversity of territories, programs, funding categories and expected outcomes to contribute to the assessment of the impact of INFC funding in the territories and demonstrate progress made toward meeting INFC's expected outcomes.
- Potential interview biases: There is always a risk when conducting interviews that interviewee responses will be subjective and could be biased towards personal views and considerations. To reduce this risk, the information collected through interviews was balanced with data from other lines of evidence, such as the document and literature review.

3.3 Risk Assessment

As part of the preliminary planning process, a risk assessment was conducted to support the objectives and scope for this joint engagement. As a result, the audit and evaluation team identified several specific risks related to the programs operating in the territories.

Some of the underlying areas of risk include the particular realities of the territories, such as limited human and financial resources which could impact how they deliver infrastructure projects. INFC's own capacity, and the fact that INFC receives limited data from recipients, may also impact the efficiency and the effectiveness of programs.

3.4 Statement of Conformance

The audit portion of this combined engagement conforms to the Institute of Internal Auditors' *International Standards for the Professional Practice of Internal Auditing*, as supported by the results of the Quality Assurance and Improvement Program.

4. Key Findings

The section on key findings is organized into the following three subsections, based on themes identified during the analysis: 1) Needs and project approval; 2) Oversight, monitoring and reporting; and 3) Impact of findings on expected outcomes.

4.1 Needs and Project Approval

Finding 1: INFC programs have met the infrastructure needs of the territories over the last ten years.

As part of 2012 consultations during the design of the NBCF, the territories identified their infrastructure priorities as: transportation, connectivity, energy, water and wastewater infrastructure, as well as community infrastructure such as cultural and recreational centres. The 2016 CCPI survey results found that ground and air transport, water, sewage, and solid waste management to be in poorer condition in the territories than the national average, which corroborates the needs identified by the territories in 2012.

INFC program data indicates that, for the most part, projects under eligible funding categories support the priorities identified by the territories and the areas identified through the CCPI as being in relatively poor condition (see Table 1 below). The exceptions to this alignment may be the relatively low number of projects funded related to cultural/recreational facilities and broadband:

- The small number of cultural and recreational projects relative to other kinds of projects may be explained by the 2016 CCPI survey results. In the territories the number of ice arenas, pools, arts and cultural centres and other (e.g. community centres) per 25,000 residents is above the national average and the physical condition of those facilities is close to the national average. A factor that could contribute to the relatively higher number of recreational centres in the territories is the remoteness of their communities, meaning facilities in one community are often not accessible to residents of other communities. This may also be due to the eligible funding categories of programs, as some do not allow for funding cultural and recreational projects.
- While there were 2 broadband projects funded under CSIF, they accounted for a small percentage among the overall number of projects. The lack of projects related to broadband may be due to territorial governments focusing their INFC project applications on high-need areas like waste water, highway and roads, and drinking water, as broadband projects are also funded through programs offered by other government departments, including Innovation, Science and Economic Development Canada.[5]

[5] In Budget 2014 the Government of Canada announced funding for the Connecting Canadians Program to work with Internet service providers (ISP) and other stakeholders across Canada to make high-speed Internet (5 Mbps) available to thousands of households in rural and remote parts of the country, some for the first time. To date, $38.5 million in funding has been provided to the territories ($929,000 for Yukon, $2.6 million for Northwest Territories, $35 million for Nunavut). This funding targeted 9,285 unserved households throughout the territories (mostly in Nunavut). In Budget 2016, the Government announced an investment of up to $500 million over five years for the new program Connect to Innovate to extend and enhance broadband service in rural and remote communities (with projects funded to date totaling $30 million in the Yukon, $4.63 million in the Northwest Territories, and $49.9 million in Nunavut).

INFC funded projects align with the departmental and territorial priorities to create long-term economic growth, support a low carbon, green economy and build inclusive communities.

Table 1 below provides a summary of the number of INFC-funded projects by eligible category in each territory.

Table 1: Number of projects, by category, in each territory

Category (Shaded categories were identified as priorities by the territories, and categories listed in red align with the highest-need areas as identified by CCPI survey results)	**Number of Projects**		
	Yukon	Northwest Territories	Nunavut
Active transportation	18	45	0
Broadband & connectivity	0	1	1
Capacity building	50	138	5
Culture	3	1	3
Disaster mitigation	1	4	0
Drinking water	72	105	38
Green energy	70	39	3
Highways & roads	66	49	1
Marine	0	0	2
Public transit	10	1	0
Recreation	6	41	9
Regional & local airport	3	6	13
Solid waste management	30	46	19
Sport	0	1	1
Wastewater	56	88	35
Administration (PT Base)	5	3	1
Northern / Building-infrastructure (PT Base)	13	21	17
Research and development (PT Base)	2	3	1
Other	0	9	2

Source: INFC Program Database

Finding 2: INFC's program adaptation measures are helping to address the unique infrastructure challenges related to the socio-economic and geographic context of the territories.

There are unique challenges to building infrastructure in the territories, including limited availability of skilled labour, higher construction costs, shorter construction seasons, and fewer sources of financing due to the smaller population.[6] Findings from this engagement provided further context on these challenges:

- Territorial staff spoke about the burden of managing many programs with different administrative and

[6] Public Study on Addressing the Infrastructure Needs of Northern Aboriginal Communities, December 2014. Recommendation on Northern Infrastructure to Support Economic Development, January 2016.

reporting requirements given limited administrative capacity. Also, according to interviewees, there is a shortage of skilled labour available in the territories during construction seasons.

- The cost of building infrastructure in the territories is substantially higher than in the provinces. The 2018 Canadian Cost Guide[7] lists the cost of construction in Yellowknife (Northwest Territories) as 70% higher, Iqaluit (Nunavut) as 140% higher and remote communities in the territories as 175% higher when indexed to the Greater Toronto Area. Additionally, the geographic remoteness of the territories requires that materials be delivered mainly by air or sea to areas that have no or limited access during the winter/early spring, creating both an additional cost and limiting timelines for construction.

During the period covered by the engagement, various INFC programs have included a number of adaptation measures to address some of these challenges,[8] including:

- INFC allowed higher administrative funding levels (when supported by a business case) to be covered under GTF and PT Base than what was allowed for provinces.
- The transfer of $592 million for the three territories from PTIC-NRP to PTIC-SCF, which has less intensive project approval and monitoring requirements,[9] was made by the department in order to further lessen administrative burden on the territories.
- To address the challenges in the territories related to the shorter construction season and limited availability of skilled labor, at program launch, the territories were provided extra time to complete projects relative to the provinces under CWWF.[10]
- The cost sharing ratio for projects for the majority of contribution programs and asset classes was set at a 75% / 25% split of eligible project costs between Canada and the territories, compared to a 50% or 33% cost sharing for provinces. In addition, for all new contribution programs (i.e. PTIC-SCF, PTIC-NRP, and CWWF) funding formulas include both a base and per capita amount to ensure provinces and territories with smaller populations aren't penalized.

Interviews with territorial representatives indicated that the program design elements that best addressed their challenges were:

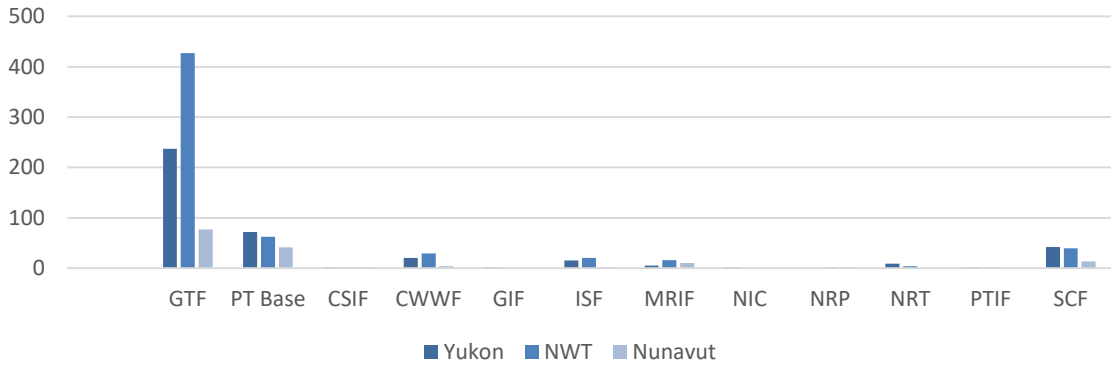
- Broad eligible funding categories (e.g. GTF and PTIC-SCF);
- Funding formula that includes a base allocation (e.g. GTF PT Base, and PTIC-SCF);
- No requirement for territorial or municipal cost sharing (e.g. GTF);
- Flexibility to bank unspent funds for future projects, pool funds to support cross-community projects, and use future allocations as capital to borrow against in order to invest in current infrastructure needs (e.g. GTF);
- Higher levels of administrative funding (e.g. PT Base and GTF);

[7] Altus Group. 2018 Canadian Cost Guide (January 2018).
[8] Study on Addressing the Infrastructure Needs of Northern Aboriginal Communities, December 2014. Centre for the North at the Conference Board of Canada, p.3.
[9] The transfer of funds from PTIC-NRP to PTIC-SCF was done in 2016-17, two years after the program started.
[10] Provinces received extensions later in the program.

- Streamlined administrative and reporting requirements (e.g. PTIC-SCF); and,
- Funding that did not require federal approval of projects (e.g. GTF).

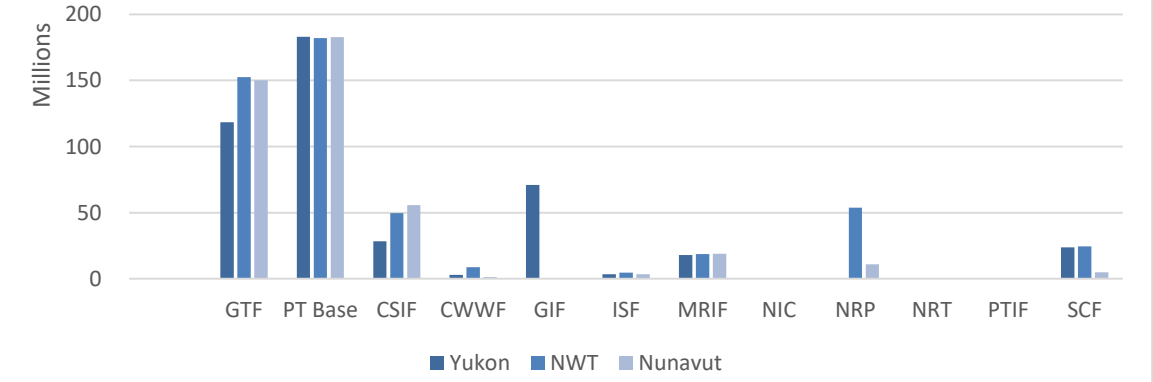
As seen in Figures 1 and 2 below, a review of the number of projects and eligible funding categories under each INFC program found that GTF, PT Base and PTIC-SCF have the highest number of funded projects in the territories, while GTF and PT Base have the highest funding levels to the territories. This program data analysis demonstrates alignment between those programs the territories have identified as having positive design elements and program spending in the territories.[11]

Figure 1: Number of Territorial Projects by INFC Program (2007-08 to 2017-18)



Source: INFC Program Database

Figure 2: Funding Allocations by INFC Program in millions of dollars (2007-08 to 2017-18)



Source: INFC Program Database

[11] Exceptions include GIF (1 project) and CSIF (3 projects) which have high funding allocations compared to the number of projects. This could be due to the cost of these projects.

Finding 3: There are effective project submission and review processes in place within INFC.

Each territory has its own process in place to identify and prioritize projects to submit under INFC's various programs. Only INFC's role in the review of submissions for eligibility, and ultimately for federal approval, was examined.

Key departmental controls pertaining to project submission and review are in place and are working as intended. Specifically projects and recipients under NBCF, PTIF, and CWWF were assessed by using established eligibility criteria based on the respective programs' Terms and Conditions. The program analysts understood the clearly documented eligibility criteria, conditions of support and level of funding. There are guidelines available and program analysts respond to questions in a timely manner. All three territories indicated that INFC's applicant guides are the most accessible and clear of the Government of Canada documentation that they use and that the process for applying is transparent.

All three territories indicated that INFC's applicant guides are the most accessible and clear of the Government of Canada documentation that they use

There is a good governance structure in place at INFC to support the review and approval of projects, including:

1) Project Review Panel (PRP): The PRP provides the Deputy Minister and the Minister with assurance that an independent challenge function is performed and that the rationale to proceed with project approval is documented.
2) Program Implementation Committee (PIC): This committee provides an opportunity for INFC program Directors to discuss region- and program-specific issues. It promotes consistent program management practices.
3) Bilateral meetings: INFC's senior management and its provincial and territorial counterparts regularly discuss INFC program allocations, infrastructure issues and funding priorities.
4) Program Committees: Various working-level program-specific committees have been established to discuss horizontal issues and promote consistency in program delivery across INFC.

4.2 Oversight, Monitoring and Reporting

Finding 4: Oversight Committees for the territories are not meeting all of their requirements.

Most agreements require the establishment of an oversight committee (OC) to oversee the monitoring and implementation of projects. These committees are made up of representatives appointed by both INFC and the recipient. They monitor progress through developing a performance measurement strategy, monitoring implementation issues, resolving disputes, and developing audit plans, as required. The committees usually operate until all activities under the agreement, including audits, reporting and final adjustments, have been completed.

Although roles and responsibilities related to oversight committees are clearly specified in various program documentation, it was found that not all Oversight Committee TORs are available and signed by both co-chairs. For instance, of five OCs assessed, two had signed ToRs, one had a draft ToR, and two had no ToR. That said, where TORs were not approved or available, other guidance existed that established the committee mandate, composition, roles and responsibilities, and authority.

To lessen the administrative burden of oversight of multiple programs, the concept of umbrella OCs was introduced for the territories by using one committee per territory. For three of the five OCs reviewed, meetings occurred as expected. However, for two of five OCs reviewed, meetings were not being held at the minimum frequency stated in the program terms and conditions.

Audits are an independent assessment of a recipient's compliance with a funding agreement and form an important part of a program's management control framework. The scope of an audit may address any or all financial and non-financial aspects of the underlying agreement.

Under PTIF, CWWF, SCF, and CSIF (where required), it was expected that an audit plan be established for each contribution agreement and approved by the OC. Plans can include an audit of the territorial recipients, as well as project-specific audits of ultimate recipients. Of the eight audit plans that should have been established and approved in our sample, two were in place, five were draft plans, and there was no evidence of an audit plan pertaining to the remaining agreement. A recipient audit plan is an important mechanism to have in place as it ensures the effectiveness of the oversight framework.

All agreements also include a right to audit clause that allows the Government of Canada to conduct its own audit at any time. The results of such audits would be presented to OCs.

It should be noted that for part of the period reviewed in this engagement, there were unexpected staff vacancies within the North region of POB, which was identified by management as a contributing factor in not meeting all OC requirements.

Recommendation #1:

It is recommended that the ADM, POB, ensure that the Oversight Committees for the territories are meeting all of their requirements as set out in the Terms of Reference or Contribution Agreements, including:

- *Terms of Reference are available and signed by both co-chairs for each oversight committee;*
- *The frequency of Oversight Committee meetings, as specified in agreements be respected; and*
- *An audit plan be established and approved, as required.*

Finding 5: Ongoing monitoring, including the reassessment of risk, should be strengthened.

The level of monitoring required by INFC varies greatly between programs:

- Some programs have very limited monitoring requirements, such as GTF, where the required monitoring is really focused on ensuring the annual reporting requirements are met;
- Some programs require that recipients regularly submit summary reporting, where one report provides updates on a number of projects, such as SCF, PTIF, and CWWF; and
- Finally, other programs (such as CSIF, NRP, and NIC), which typically involve larger projects, require more in-depth analysis, often supported by more formal reports, site visits, and project-specific meetings or briefings.

The focus of the audit team for testing the monitoring requirements was generally on the programs where more in-depth analysis was expected. We reviewed whether projects were monitored regularly, and whether the process was documented.

Risk assessments

The project risk assessment tools at INFC have evolved over the years as the department matured and the design of programs changed. Since 2015, according to program guidance, projects that require in-depth monitoring must have their risks assessed at least twice over the project's lifecycle.

All nine projects reviewed contained at least one risk assessment, which coincided with project approval (or the repatriation of projects in the case of CSIF).[12] We expected to see the re-assessment of risks in three projects, but we did not find evidence of such in the project file.

Program analysts have indicated that the risk assessment tool poses a challenge for projects in the territories, as the tool tends to result in an overall risk rating that is higher than analysts feel is warranted. Informal compensating controls exist, such as frequent contact with the territories, but those activities are often not documented in the project file.

Project monitoring

The Project Monitoring Report (PMR) is the only formal and nationally consistent record of the analysis of projects. The relevant manager and director are expected to review it. Since January 2015, the guidance has been that the PMR must be completed at least once a year for all NRP and NIC project agreements. We did not find the PMR in the project file in all three cases where it was expected.

[12] CSIF projects were initially administered by federal delivery partners (such as the Canadian Northern Economic Development Agency, and Transport Canada) on behalf of INFC. Between 2007 and 2012, the administration of most CSIF projects returned to INFC, a process that was referred to as repatriation.

Territorial and INFC analyst views

The territories were well aware of what had to be submitted to INFC in regards to monitoring and reporting. INFC program analysts were also generally comfortable with the requirements, and would reach out to the territories if data was missing or seemed inaccurate. However, there are opportunities to enhance guidance. For instance, under PTIF and CWWF, some INFC analysts felt it was not always clear what information was required when reviewing reports before paying claims. This need for enhanced guidance was also noted during the August 2018 Audit of the PTIF-CWWF – Payments and Reporting. This is important as there is a critical linkage between understanding reporting and being able to assess the reasonableness of subsequent claims.

INFC and territorial staff noted that working with multiple programs poses challenges. INFC manages a multitude of similar programs that each have a different set of terms and conditions, and there is a risk that INFC and/or territorial staff may confuse the requirements of those various programs. This could lead to accidental non-compliance to a program's specific terms and conditions. This is magnified with the high staff turnover rate in INFC over the past few years.

***Recommendation #2*:**

It is recommended that the ADM, POB, ensure that on-going project monitoring, including any required reassessment of risk, is adequately performed and documented. If the existing tools (e.g. the risk assessment tool) do not meet the specific needs of projects in the territories, alternative methodologies should be documented and approved.

Finding 6: When service standards are not met, there is a lack of documentation to support the reason why.

Similar to the variation in monitoring requirements, there are differences in the claims process of the various programs:

- In some programs, like GTF, there are no claims. Payments are subject to the recipient having submitted all required reporting;
- Some programs (such as SCF, PTIF and CWWF) require that recipients submit summary claims. The territory performs the detailed invoice review and INFC receives an attestation from an authorized territorial representative that the summary claim is in accordance with the agreement provisions. These kinds of claims could be for multiple projects; and

- Other programs (such as CSIF, NRP and NIC), require that recipients submit a claim along with the detailed supporting documentation.

Each program also has unique cost eligibility conditions. In some programs the recipient must demonstrate that eligible costs were incurred and paid; in other programs the costs only need to be incurred. There are also differences in eligible costs. In all cases, when INFC reviews the claim, it must be satisfied that the claim amount is reasonable, given all that is known about the project.

According to the territories, INFC staff respond to questions relating to claims in a timely and clear manner.

There is a consensus from INFC staff that the claims process is generally effective. The Claims Unit, Program Operations, and Finance largely understand their roles. The checklist for claims was identified as a tool that makes the process more effective and clearer. Program analysts have support from Finance analysts and work closely with their territorial counterparts to ensure timely and accurate information is provided. The guidelines included in the claims checklist set clear accountabilities to ensure complete claims packages are prepared and reviewed.

According to the territories, INFC staff respond to questions relating to claims in a timely and clear manner. The attestation-based claims approach is considered most efficient by ultimate recipients. INFC's claims process has also become more efficient in recent years, although territories suggested that standardizing the basis for claims (i.e. eligible costs incurred vs. incurred and paid) for all programs, as well as what is eligible under which program, could be helpful.

The ability to submit online claims was also identified as something that could be helpful, but would be dependent on the quality and speed of broadband connectivity. Territorial representatives indicated they liked the changes to the NBCF, PTIF and CWWF programs, which made the eligible expense criteria more flexible.

We examined 30 of 58 claim payments for the territories under CSIF, NBCF, PTIF and CWWF between April 1, 2014 and March 31, 2018, taking into consideration territorial representation and materiality.

All claims were reviewed and approved in accordance with INFC’s financial delegation instrument. However, of the 21 claims tested that were subject to a service standard, the standard was met in approximately 60% of the time. For the 40%, or eight claims that were not paid within the required timeframe, late payments ranged between 2 to 58 days beyond the service standard. In all but one case, we found a lack of documentation explaining why the service standard was not met. Such documentation would be useful to the department in responding to any inquiries, and would strengthen management’s ability to determine if there are systemic issues needing to be addressed.

The three findings related to oversight, monitoring and reporting have identified established processes (including key controls) that are not consistently operating as intended. Previous audit work has indicated this issue is not limited to projects in the territories.

Recommendation #3:

It is recommended that the ADM, POB, establish a quality assurance [13] function that reviews project files to ensure compliance with established guidelines and procedures.

4.3 Impact of INFC's Programs on Expected Outcomes

Finding 7: Territories have made progress in capital planning and asset management over the last ten years.

Municipalities identified infrastructure planning, addressing the awareness of capital plans issues, and developing/maintaining a capital asset management plan as priorities in order to better manage their capital stock of infrastructure.

INFC provides funding to the territories, through the GTF, to strengthen municipalities' long term planning practices, including through the development of:

- Integrated Community Sustainability Plans (ICSPs) – a long-term plan, developed in consultation with a Municipality or group of Municipalities to realize sustainability objectives a Municipality has for the environmental, cultural, social and economic dimensions of its identity;[14]
- Asset Management Plans – plans that support an integrated, lifecycle approach to effective stewardship of infrastructure assets through an asset inventory, tracking the condition of infrastructure, level of service risk assessment, cost analysis, community priority setting, and financial planning;[15] and,
- Capital Plans – plans that document the condition of existing infrastructure and anticipated investments.[16]

Between 2007-08 and 2017-18, INFC funded 191 capacity building GTF projects in the territories (50 in Yukon; 137 in the Northwest Territories; and 4 in Nunavut).[17]

As per the 2005 GTF agreements, territorial governments committed to ensure the development of ICSPs in the communities. Under the 2014-24 GTF agreements, the territories are required to promote the state of asset management planning in their communities and must also report on progress made on asset management planning.

[13] Quality assurance is broadly defined as activities implemented to test whether a product or service fulfills requirements, such as following an approved process or complying with program conditions.

[14] GTF Agreement (2005).

[15] GTF Agreement (2014).

[16] GTF Agreement (2014).

[17] INFC Program Database.

Integrated Community Sustainability Plans

Yukon:

By 2009, 21 of 23 communities had completed ICSPs and the remaining ones were completed by 2013. Since then several communities have progressed to renewing the initial plan or are working on joint community plans. Of note, Yukon has also successfully developed and implemented an integrated capital plan between a municipal government and a self-governing First Nation community: the Hamlet of Teslin and the Teslin Tlingit Council.[18]

Northwest Territories:

In 2007, capital planning and infrastructure implementation responsibility were transferred from the Government of the Northwest Territories to community governments. Since 2010, all 33 community governments in the territory have an ICSP outlining goals, strategies, and action items in the areas of Governance, Capital, Energy and Human Resources. Moreover, all communities have capital plans. To assist community governments with their capital planning, the Northwest Territories implemented a Capital Planning Tool that stores information on a central database and supports communities through the capital planning process.[19]

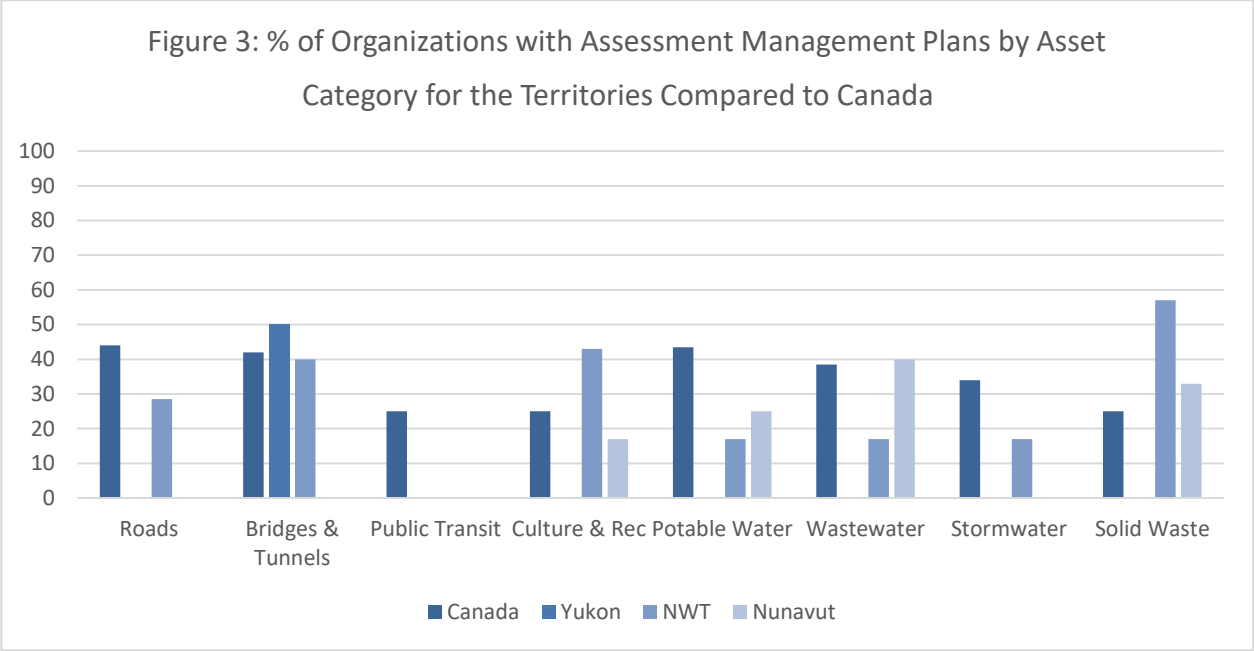
Nunavut:

In 2008, the Government of Nunavut began an infrastructure consultation process to build ICSPs. This process has improved over the years according to interviewees and has moved to a web-based ICSP toolkit that is being rolled out across the territory and gives the authority to the community administrators to update and maintain their ICSPs.[20]

Asset Management Plans

Figure 3 below illustrates the number of asset management plans by territory for each of the asset categories identified as part of the 2016 CCPI survey on asset management. The Northwest Territories have the highest proportion of asset management plans of the territories, followed by Nunavut. Yukon has asset management plans only for bridges and tunnels. Overall, the proportion of completed asset management plans is lower in the territories than across Canada.

[18] Yukon's GTF Outcomes Report, 2017.
[19] NWT GTF Outcomes Report 2009, 2013, 2017.
[20] Nunavut's website. http://www.buildingnunavut.com/en/index.asp



Source:Statistics Canada CCPI Survey

Yukon:

According to interviews, the Yukon government began working on an asset management system in 2012. According to the GTF Outcomes Report (2017), 21 of 22 communities had submitted an asset management progress report. Communities in Yukon are at various stages of asset management preparation. Some are well advanced and have implemented long term budgeting and asset management policies. Others are at the beginning stages and noted human resource capacity and geographic remoteness/small population bases as challenges in preparing asset management plans[21]. GTF funding has also helped the territory develop a community of practice on asset management. Conversely, the CCPI data in Figure 3 suggests Yukon has the fewest asset management plans among the territories; however this could be due to the limitations of CCPI data collection and respondent rates for the territory.

Northwest Territories

While there is minimal evidence of asset management in the Northwest Territories prior to 2014,[22] in 2016, with funding from GTF, the territory launched the Asset Management Strategy to help community councils and staff maximize benefits from their infrastructure investments. In 2017, territorial and community officials collected detailed information on all community government assets. In 2018, communities began using asset management software to support infrastructure related decision-making. The software includes detailed asset information such as age, maintenance requirements and potential suppliers.[23] Progress on asset management in the Northwest Territories is supported by CCPI data in Figure 3.

[21] Yukon GTF Progress on Outcomes report, 2017.
[22] NWT GTF Progress on Outcomes Report 2009, 2013.
[23] NWT GTF Progress on Outcomes Report 2017.

Nunavut:

There is limited evidence of asset management capacity in Nunavut. GTF Outcome Reports did not provide evidence to support asset management capacity. However, CCPI data in Figure 3 indicates that Nunavut has some asset management plans in place for assets such as culture and recreation, solid waste, water, and wastewater.

Finding 8: INFC investments in territorial infrastructure projects are contributing to economic growth, stronger communities and a cleaner environment.

The engagement determined that INFC funding in the territories is contributing to the departmental outcomes of economic growth, stronger communities, and a cleaner environment. While the data limitations outlined in the Methodology section limited the ability to quantify the impact of INFC investments, available information was supportive of an overall positive impact.

The literature review indicated that the asset categories most closely correlated with economic growth are transportation and telecommunications, with water and sewage treatment systems, solid waste management, and green energy most closely aligned to cleaner environments. INFC has also highlighted that recreation and culture are asset categories linked to stronger communities.The literature also indicates that all three outcomes are interdependent: "long term economic growth also relies on community infrastructure that supports a diversified economy and good quality of life for community members," and vice versa. For example, it is difficult to attract and retain skilled workers if the community does not have suitable social infrastructure (e.g. housing), yet economic development initiatives could have quality of life impacts as well as generate revenue for investments in social infrastructure.[24]

Economic growth

The notion that adequate and properly functioning infrastructure enhances economic development is well-established. Research undertaken over the past decade indicates a robust causal relationship between public infrastructure investment and growth in productivity. For example, Statistics Canada determined that investment in public infrastructure in Canada contributed to an average of 9% growth in labour productivity from 1962 to 2006. Moreover, the Institute for Research on Public Policy concluded that investment in public infrastructure could generate productivity returns ranging from 17% to 25%.

Investments in transportation, energy, and telecommunications infrastructure are usually cited as being more closely correlated with increased productivity and growth: between 2007-08 and 2017-18, INFC funded 144 projects in these areas in the territories, including highways and roads, marine, regional and local airports, and broadband and connectivity. These totals are presented in Table 2 below.**Table 2: INFC Funded Projects Associated with Increased Productivity and Growth, 2007-08 to 2017-18**

Category	YK	NWT	NU	Total

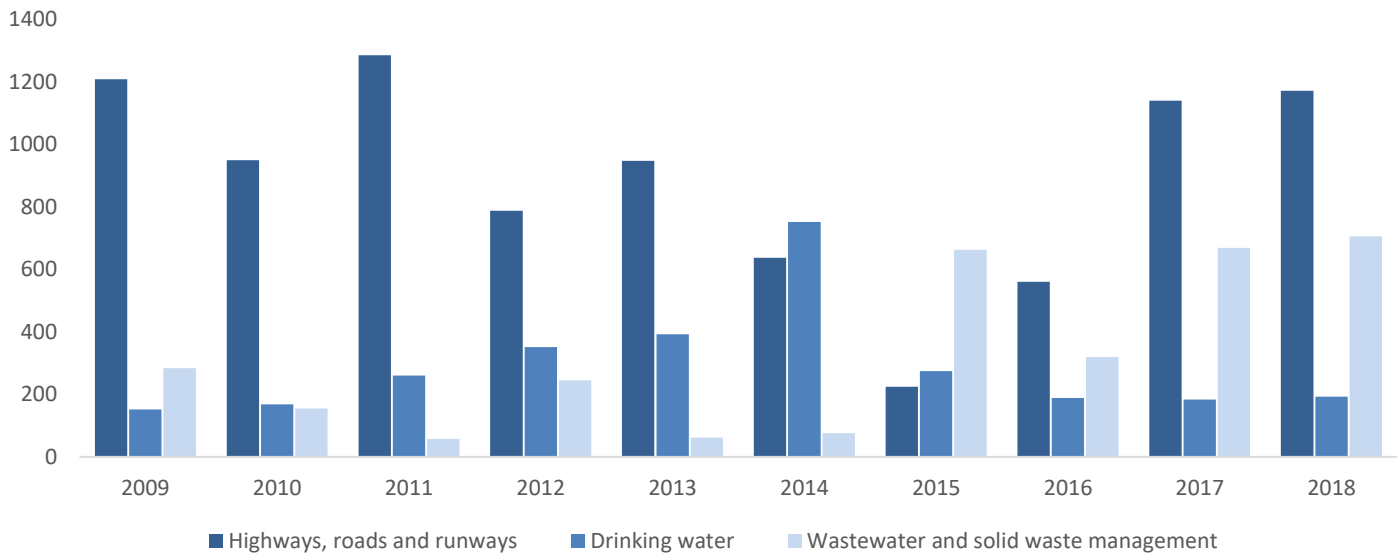
[24] Study on Addressing the Infrastructure Needs of Northern and Aboriginal Communities. Centre for the North at the Conference Board of Canada, 2014; Recommendations on Northern Infrastructure to Support Economic Development. National Aboriginal Economic Development Board, January 2016.

Highways and roads	68	49	1	**118**
Marine	0	0	2	**2**
Regional and local airport	3	6	13	**22**
Broadband and connectivity	0	1	1	**2**

Source: INFC Program Database

With respect to job creation, Statistics Canada data indicated that between 2009 and 2017, the number of jobs in the territories increased as a result of investments in highways, roads and runways, as well as waterworks (drinking water and wastewater/solid waste management) infrastructure, as seen in Figure 4 below.[25]

Figure 4: Total impact of infrastructure investment in the Territories on number of jobs, for the three most-funded sectors



Source: Infrastructure Statistics Hub

The case study of the Inuvik to Tuktoyaktuk Highway provides examples of the jobs created by INFC funding. INFC's $200 million in funding to construct the Inuvik to Tuktoyaktuk Highway provided employment to the area, with residents in the two communities making up 75% of the labour force for the project. The highway has opened up the area for tourism and facilitated travel to Inuvik, reducing the isolation of residents of Tuktoyaktuk. The highway is expected to help bring increased tourism revenue into the region and reduce the cost of living in Tuktoyaktuk as the shipment of goods by road will now be possible year-round.[26]

An additional case study examined upgrades to a local airport in Arviat, Nunavut. INFC provided $5 million in 2007-08 to upgrade the airport runway and lighting in Arviat under PT Base funding. According to community

[25] As it is not possible to distinguish the impact of INFC funding in isolation of other funding, this statement and the data in Figure 3 represent the impact of all infrastructure investments, including those beyond INFC funding.

[26] https://www.highnorthnews.com/en/canadas-road-arctic-ocean

members, having more reliable airport access improved the safety and security of passengers as well as residents, and allows for a more regular supply of consumable goods, medivac, and increased local economic development.

According to the literature review and interviews, residents' access to transportation upgrades also contributes to long-term economic growth by:

- Providing job opportunities;
- Improving mobility within and among communities; and,
- Improving local businesses' ability to move goods and services in and out of the community.

Stronger communities

The literature review found that amenities such as cultural and recreational facilities, drinking water, and public transit are vital for stronger communities. The CCPI survey results, as mentioned earlier in the report, found that the number of arenas, pools, arts and cultural centres and other community facilities per 25,000 residents in the territories is above the national average while the physical condition of these facilities is close to the national average. As seen in Table 3 below, between 2007-08 and 2017-18, INFC funded 365 projects in areas linked to the outcome of stronger communities.

Table 3: INFC Funded Projects Associated with Stronger Communities, 2007-08 to 2017-18

Category	YK	NWT	NU	Total
Recreation	6	41	9	**56**
Sport	0	1	1	**2**
Active transportation	18	45	0	**63**
Culture	3	1	3	**7**
Drinking water	82	106	38	**226**
Public Transit	10	1	0	**11**
Total	119	195	51	**365**

Source: INFC Program Database

The positive impact of infrastructure funding related to culture and recreation was illustrated through the case studies:

- In 2008, using GTF funding of approximately $200,000, the community of Whale Cove built a community centre. According to interviews, the centre has become a vital gathering place for the community, and has improved the security and well-being of the community's children by providing a safe shelter during polar bear season. It has also improved their mental health by allowing them to play together in a safe and supervised environment.

- Under MRIF, INFC provided $12 million between 2010 and 2012 to the Champagne and Aishihik First Nations in Haines Junction, Yukon to build an Indigenous cultural centre to house collections and hold meetings and community gatherings. The space is used to host programs such as language classes, a

daycare, and heritage activities like moose hide tanning.

- In 2010 a water pump was built using GTF funds in Baker Lake, Nunavut to provide residents with regular and ongoing access to clean water and to reduce the risk of water-borne diseases. According to the Nunavut Bureau of Statistics, following completion of the water pump and treatment facility construction, the community experienced a decrease of 2.8% in health visits related to signs and symptoms of illness from 2010 to 2015. Infectious disease visits also decreased by 1.5% over the same time period.

Cleaner environment

Between 2007-08 and 2017-18, INFC funded 385 projects related to the expected outcomes of a cleaner environment, as seen in Table 4 below.

Table 4: INFC Funded Projects Closely Associated with a Cleaner Environment, 2007-08 to 2017-18

Category	YK	NWT	NU	Total
Green energy	70	38	3	**111**
Solid waste management	30	46	19	**95**
Wastewater	56	88	35	**179**

Evidence from the case studies suggests that INFC funding over the ten-year period examined has contributed to: reducing greenhouse gases (GHG) through upgrading and replacing fossil-fuel operated systems; helping to safely dispose of hazardous waste; preventing and minimizing the impact of environmental spills and clogged systems; and diverting compostable materials/solid waste from landfill and increasing the quantity of solid waste diverted from disposal. Three examples are described below.

- Prior to the City of Yellowknife receiving $139,667 (under the MRIF in 2008-09) of federal funding for a Wood Pellet Boiler System at its baling facility, the baling facility consumed 84,000 litres of fuel oil annually, producing 240 tonnes of CO2 emissions, and resulting in an estimated 2,265 tonnes of wood waste being landfilled annually at a cost of $90,000. Since the boiler was put into service, officials from the City of Yellowknife stated that there has been a reduction in GHG emissions and a 50% reduction in heating costs, which has led to a lower user fee for residents.
- Under the GTF, between 2005-06 and 2009-10, the Village of Teslin received $37.5 million in funding to expand its compost building. Prior to the expansion, residents of Teslin were burning garbage and the landfill was open seven days a week. Since the expansion, 98% of the community is now composting, reducing the amount of pure waste and landfill usage.
- The Town of Inuvik received federal funding under GTF ($2.9 million), SCF ($3.9 million) and MRIF ($197,000) as part of a multi-year project to upgrade its utilidor systems to improve the efficiency of water/wastewater distribution. According to the 2009 Northwest Territories GTF progress report, there was a reduction of 60,000 kW/yr for operating this utilidor, leading to a reduction in GHG emissions.

As described in the Limitations section of this report, despite the challenges faced in obtaining quantitative data as part of this evaluation, the evidence collected through document and literature review, as well as through interviews and site visits, indicates that INFC funding had a positive impact on economic development as well as on stronger and cleaner communities in the territories.

As INFC moves forward with significant new investments in infrastructure under the Investing in Canada Plan, there is an opportunity to ensure a strategic approach is in place to identify and collect data that will demonstrate progress against program and INFC ultimate outcomes.

Recommendation #4:

Establish an approach to ensure that performance and results data are reliably and consistently collected across ongoing and future program recipients and other sources. As part of this approach, ensure that: Contribution Agreements for ongoing and future programs outline reporting requirements INFC indicators and outcomes and that program officers are able to monitor that the performance data submitted to INFC are in accordance with the Contribution Agreements requirements; and data is identified and collected that will allow assessment of current program and departmental ultimate outcomes.

5. Conclusions

Objective 1	**Conclusion**
Provide reasonable assurance that the design of the management control frameworks in place to manage INFC's contribution programs delivered in the territories is adequate and effective and in compliance with the TB *Policy on Transfer Payments.*	Overall, the design of the management control frameworks is adequate and in compliance with the TB *Policy on Transfer Payments*, but there are opportunities to improve its effectiveness.
Highlights	
There is an effective project submission and review process in place within INFC for the territories. There is also a good governance structure in place at INFC to make decisions on eligibility or other issues. Ongoing monitoring and project risk management can be strengthened. Recipient/ project risks were assessed at the project approval phase for CSIF, NRP and NIC, but there is a lack of evidence to support the periodic review of those risks as projects are implemented. There is an opportunity to improve guidance to analysts in how to review reporting and claims, specifically for PTIF and CWWF.	

Objective 2	**Conclusion**
Evaluate the extent to which INFC has met the infrastructure needs of the territories over the last ten years.	INFC's programs have met the infrastructure needs of the territories over the last ten years.
Highlights	
INFC funded projects align with departmental and Government of Canada priorities related to economic growth, stronger communities, and cleaner environments. The adaptation measures that INFC has made to address the challenges of the territories have also been effective in meeting the needs of the territories. The design elements that seem to work best for the territories are broad eligible funding categories, a funding formula that includes a base amount, streamlined administration and reporting requirements, and access to additional administrative funds.	

Objective 3	**Conclusion**
Assess the impacts of INFC's programs delivered in the territories in view of their particular socio-economic and geographic context.	Territories, overall, have increased their capacity for long-term planning and asset management. INFC investments in territorial infrastructure projects are contributing to the long-term outcomes of economic growth, stronger communities and a cleaner environment.
Highlights	
Literature and data review, as well as case studies, indicate that INFC's programs contribute to meeting the expected outcomes of long-term economic growth, stronger communities, and a cleaner environment. Data limitations presented a challenge to determining the extent of this contribution.	

5. Management Action Plan

At the time this audit and evaluation was taking place and interviews and information collected, the Program Operations Branch (POB) was in the midst of an internal reorganization to better address program needs. Since then, a new Directorate has been established to better coordinate all the work and requirements of the new Investing in Canada Infrastructure Program. This new Directorate will coordinate and provide training to all employees involved in ICIP, in addition to coordinating all oversight management process such as: Oversight Committee meetings, terms of references, audit plans, etc. This unit will also put in place a quality assurance process to make sure ICIP files are managed in accordance with programs terms and conditions. It is also proposed that this unit expands its quality assurance functions to monitor major legacy programs such as PTIF/CWWF which were considered under this report.

It is expected that by 2020, deficiencies identified in the report will have been addressed in a positive and satisfactory way and the recommendations included in the management action plan will be implemented in an effective way.

#	Recommendation	Priority Rating	Management Action Plan	OPI and Due Date
1	It is recommended that the ADM, POB, ensure that the Oversight Committees for the territories are meeting all of their requirements as set out in the Terms of Reference or Contribution Agreements (CAs), including: • Terms of Reference are available and signed by both co-chairs for each oversight committee; • The frequency of Oversight Committee meetings, as specified in agreements be respected; and • An audit plan be established and approved, as required.	High risk exposure	Management agrees with the recommendation POB commits to undertaking a review of Oversight Committee requirements in the territories, including: a. Ensuring that Terms of Reference are available and signed by both co-chairs for each oversight committee b. The North team will work with Program Integration to explore the creation of a report and a schedule/calendar of deliverables, including meeting frequency and required documents and timeframes for updating documents that can be shared with territorial counterparts. c. INFC will work with each Territory to ensure that the audit plans related to each program and contribution agreement are up to date based on the latest templates.	Dir - North September 2019 Dir – North in collaboration with Program Integration October 2019 Dir - North October 2019

2	It is recommended that the ADM, POB, ensure that on-going project monitoring, including any required reassessment of risk, is adequately performed and documented. If the existing tools (e.g. the risk assessment tool) do not meet the specific needs of projects in the territories, alternative methodologies should be documented and approved.	Medium risk exposure	Management agrees with the recommendation. To address this recommendation, the Director and Manager responsible for the North region will work with Program Integration Unit to make better use of the Legacy Program Committee as a vehicle for the sharing of best practices, new tools and other emerging or changing program requirements. a. Program Integration and the Legacy Committee will assess options for the creation of tools and reports that could be generated from PIMS that would support management in ensuring that each project/program files are updated as needed. b. The Manager North commits to ensuring that use of the Project Monitoring Report for National and Regional Projects is implemented.	Dir & Mgrs – North Programs In collaboration with Dir & Mgrs Program Integration January 2020
3	It is recommended that the ADM, POB, establish a quality assurance function that reviews project files to ensure compliance with established guidelines and procedures.	High Risk Exposure	POB Management feels that with the implementation of the measures above, such as: organization and resources realignment, file reviews, improved training, development of a new tool that will assist management in quickly identifying missed requirements – this recommendation will be addressed. Further, POB will take into consideration the results arising from Internal Audit's planned testing of a sample of activities and transactions, to occur between November 2019 to March 2020, to monitor compliance with established guidelines and procedures related to oversight, monitoring and reporting, in order to assess the effectiveness of our management action plan.	ADM POB, August 2020
4	It is recommended that the ADM POB establishes an approach to ensure that performance and results data are reliably and consistently	High Risk Exposure	INFC recognises the importance of consistent and reliable performance data and a robust performance and results regime, which is demonstrated by the department's measures directly addressing this recommendation.	

	collected across ongoing and future program recipients and other sources. As part of this approach, ensure that: Contribution Agreements for ongoing and future programs outline reporting requirements INFC indicators and outcomes and that program officers are able to monitor that the performance data submitted to INFC are in accordance with the Contribution Agreements requirements; and data is identified and collected that will allow assessment of current program and departmental ultimate outcomes.		1. Recent programming, specifically the Investing in Canada Infrastructure Program (ICIP), has moved to an outcomes-based approach to performance and results measurement. All projects are required to demonstrate that they will meet one or more pre-defined, consistent category outcomes. 2. INFC has established the Program Integration Directorate within Program Operations Branch to work with the regional directorates to establish appropriate and consistent project-level performance measures and indicators, as well as to identify potential sources of baseline data which will allow for pre/post comparative analysis. 3. Regional Project monitoring functions are being strengthened, including the creation and staffing of new monitoring positions in the Program Operations Branch's North Team. 4. INFC has restructured its Policy and Results Branch, including the establishment of the Economic Analysis and Results Directorate, which is responsible for developing evidence-based policy advice to inform future programming design decisions. As a further demonstration of its commitment data to improving the quality and availability issues, the ADM POB will, on an annual basis over the next two years, update the Chief Audit and Evaluation Officer of accepted progress reports so that they may track progress on this recommendation.	ADM POB, March 2020

Annex A: Demographic and Geographic Context

In the territories, the infrastructure deficit is exacerbated by unique socio-economic and geographic factors that include a small population, remoteness and isolation of communities and the high cost of living.

While the territories represent less than one percent of the total Canadian population, Nunavut and Yukon have the youngest and fastest growing populations in Canada. In both 2011 and 2016, Statistics Canada census data showed that both Nunavut and Yukon exceeded the average national population growth. In contrast, NWT was among the slowest growing regions, only slightly ahead of Nova Scotia and New Brunswick for population growth.[27] Recent population data (2018) estimates continued growth in the territorial population with 40,483 residents in Yukon[28] (12.8% growth since 2016), 44,541 residents in NWT[29] (6.6% growth since 2016), and 38,396 residents in Nunavut[30] (6.8% growth since 2016) compared to an estimated 4.5% growth across Canada over a similar period.

The three territories combined make up 40% of Canada's land mass and have a population density of 0.1 (or less) people per square kilometre compared to the Canadian average of 3.9 people per square kilometre. Many residents in the territories live in very remote or isolated communities and experience a high cost of living.[31]

In Yukon, all but one of the communities are connected by road infrastructure. The isolated community has no land or water access and can only be reached via air. In NWT, the highway system consists of 2,200 km of all-season roads available to 19 of the 33 communities. Of the 14 isolated communities, 10 have winter road access and 4 have access by boat in the summer, with air-only access the rest of the year. Meanwhile, all of the communities in Nunavut are isolated, with no road infrastructure connecting them. Throughout the year access is limited to air transportation with the exception of a few months in the summer when access via water is feasible.

The extent of the costs for remote and isolated communities vary depending on the degree to which a community is isolated (i.e. distance from an urban centre or distribution point, quantity and length of flights and stopovers, etc.). For example, the Yukon Government suggests that, in 2012, "on average, for every dollar you spend on gas, fuel, cigarettes, groceries, personal care items, or household cleaning supplies in Whitehorse, you'll pay $2.00 to buy the same products" in the isolated community of Old Crow.[32] Meanwhile, the NWT Bureau of Statistics

[27] Statistics Canada Census Data 2016.
[28] http://www.eco.gov.yk.ca/stats/ybs.html
[29] https://www.statsnwt.ca/
[30] https://gov.nu.ca/sites/default/files/nunavut_and_canada_population_estimates_statsupdate_second_quarter_2018.pdf
[31] National Aboriginal Economic Development Board, January 2016.
[32] http://www.yukoncommunities.yk.ca/old-crow/cost-of-living

provides cost of living data for each community in the territory (as compared to costs in Edmonton, AB). Data from 2013 indicates a range of 25%-85% higher costs across communities, with the higher costs in isolated communities ranging from 55%-85%.[33] While it is more difficult to find data on cost of living in Nunavut, a report by the Nunavut Economic Forum estimates that a person living in Nunavut would need to spend 75% more to purchase the same goods and services than someone living in southern Canada.[34]

As such, the required income needed to offset the cost of living is higher in the territories, compared to the rest of Canada. Using Canada's median income of $34,204 as a benchmark, in order to afford comparable goods and services as someone in a community that was not isolated or remote, a resident in the Yukon would require between $41,000 to $68,000, a NWT resident would require between $42,000 and $63,000, and a Nunavut resident $60,000.

[33] https://www.statsnwt.ca/prices-expenditures/living_cost_differentials/
[34] http://www.nunavuteconomicforum.ca/public/files/library/LABOURFO/COSTOFLI.PDF

Annex B: INFC Program Profiles

Program	Objective(s)	Eligible recipient(s)	Eligible funding categories
PROGRAMS INCLUDED IN THE INVESTING IN CANADA PLAN			
Public Transit Infrastructure Fund (PTIF)[35] 2016-17 to 2019-20 As of March 31, 2018, no additional project proposals are being accepted for either PTIF or CWWF.	Help accelerate municipal investments to support the rehabilitation of transit systems, new capital projects and planning and studies for future transit expansion.	Provincial, territorial, municipal, regional governments and/or transit authorities.	Public transit
Clean Water and Wastewater Fund (CWWF)[36] 2016-17 to 2019-20	Contribute to the rehabilitation of both water and wastewater systems and planning for future upgrades to water and wastewater systems.	Provinces and territories, municipalities and other entities that provide water or wastewater services as designated by the provinces/territories or municipalities.	Water, wastewater, asset management, system optimization, and planning initiatives.

[35] INFC's web site http://www.infrastructure.gc.ca/plan/ptif-fitc-eng.php (December 27, 2018).
[36] http://www.infrastructure.gc.ca/plan/cwwf/cwwf-program-programme-eng.html (January 4, 2019).

Program	Objective(s)	Eligible recipient(s)	Eligible funding categories
Gas Tax Fund[37] 2005-present[38]	Help local governments to build and revitalize their public infrastructure.	Municipalities	Public transit, wastewater infrastructure, drinking water, solid waste management, community energy systems, local roads and bridges, capacity building, highways, local and regional airports, short line rail, short sea shipping, disaster mitigation, broadband and connectivity, brownfield redevelopment, culture, tourism, sport, recreation and capacity building.[39]

[37] Performance Measurement Strategy for the Gas Tax Fund (2014-24).
[38] The Gas Tax Fund (GTF) was launched in 2005 for five years (2005-2006 to 2009-2010). In 2007, the program was extended until March 31, 2014. In 2011 the GTF became a permanent (statutory) source of funding.
[39] There are 18 eligible project categories under the GTF.

Program	Objective(s)	Eligible recipient(s)	Eligible funding categories
New Building Canada Fund (NBCF)[40] 2014-15 to 2023-24 ***Provincial-Territorial Infrastructure Component – Small Communities Fund (PTIC-SCF)***[41]	Generate positive economic activity; reduce potential economic disruptions or foregone economic activity; generate productivity gains for the Canadian economy; and/or, provide benefits that extend beyond the provinces or territories where the project would be located.	Provinces/territories, or a municipal or regional government; band council or a government or authority established pursuant to a Self-Government Agreement or a Comprehensive Land Claim Agreement; public sector body; private sector body, in partnership with one or more of the entities referred to above; Canada Port Authority, International Bridge and/or Tunnel Authority or U.S. federal and state-level transportation authorities.	Highways and major roads, public transit, rail infrastructure, local and regional airports, port infrastructure, intelligent transportation systems (ITS), innovation, connectivity and broadband, green energy, drinking water, wastewater, solid waste management, brownfield redevelopment, disaster mitigation infrastructure, civic assets and municipal buildings, culture, recreation, tourism, and Northern infrastructure (territories only).

[40] http://www.infrastructure.gc.ca/prog/programs-infc-summary-eng.html#nrp (January 4, 2019).
[41] In 2016, PTIC-NRP funds were transferred to PTIC-SCF for the territories as PTIC-NRP was for projects of national or regional significance which was not as applicable to the territories. There were only 3 projects under PTIC-NRP in the territories and only 1 under NIC.

Program	Objective(s)	Eligible recipient(s)	Eligible funding categories
New Building Canada Fund (NBCF) 2014-15 to 2023-24 ***Provincial-Territorial Infrastructure Component – National Infrastructure Component (PTIC-NIC)***	For projects of national significance that have broad public benefits, and that contribute to Canada's long-term economic growth and prosperity. To be considered significant, projects must support one or more of the following objectives: generate positive economic activity, reduce potential economic disruptions or foregone economic activity, generate productivity gains for the Canadian economy, or provide benefits that extend beyond the provinces or territories where the project would be located.	Provinces/territories, or a municipal or regional government; band council or a government or authority established pursuant to a Self-Government Agreement or a Comprehensive Land Claim Agreement; public sector body; private sector body, in partnership with one or more of the entities referred to above; a Canada Port Authority, International Bridge and/or Tunnel Authority (unless a federal Crown Corporation) or U.S. federal and state-level transportation authorities.	No specific category defined, but projects must meet the definition of "national significance" spelled out in the "Objectives" column to the left.

Program	Objective(s)	Eligible recipient(s)	Eligible funding categories
New Building Canada Fund (NBCF) 2014-15 to 2023-24 ***Provincial-Territorial Infrastructure Component – National and Regional Projects (PTIC-NRP)***	Projects that contribute to economic growth, a clean environment and stronger communities.	Provinces/territories, or a municipal or regional government; band council or a government or authority established pursuant to a Self-Government Agreement or a Comprehensive Land Claim Agreement; public sector body; private sector body, in partnership with one or more of the entities referred to above.	Highways and roads, public transit infrastructure, disaster mitigation infrastructure, connectivity and broadband, innovation, wastewater, green energy, drinking water, solid waste management, brownfield redevelopment, local and regional airports, short line rail infrastructure, short sea shipping, Northern infrastructure (applies to Yukon, Nunavut and Northwest Territories only), passenger ferries services infrastructure, culture, recreation, tourism, civic assets and municipal buildings.
PROGRAMS NOT INCLUDED IN INVESTING IN CANADA PLAN			

Program	Objective(s)	Eligible recipient(s)	Eligible funding categories
Provincial Territorial Base Fund (PT Base) 2007-08 to 2016-17	Enhanced competitiveness and productivity of the economy; cleaner air, water and land; stronger and healthier communities.	Provinces/territories	Water, wastewater, public transit, highways, green energy, disaster mitigation, solid waste management, brownfield redevelopment, culture, sport, connectivity and broadband, local roads, short line rail, short sea shipping, tourism, regional and local airports, northern infrastructure and safety related rehabilitation.
The Canada Strategic Infrastructure Fund (CSIF)[42] 2002-03 to 2019-20	Supports large-scale strategic infrastructure projects that are of major national and regional significance and contributes to economic growth and quality of life in Canada.	Provinces, territories, municipalities, and regional governments; public sector bodies; and private sector bodies.	Highway, rail, local transportation, tourism or urban development infrastructure, water and wastewater, advanced telecommunications and high-speed broadband and northern infrastructure.

[42] Program profile CSIF-2015-09-04-v01

Program	Objective(s)	Eligible recipient(s)	Eligible funding categories
Municipal Rural Infrastructure Fund (MRIF) 2003-2011	Improve the quality of the environment, to promote long-term economic growth, to upgrade community infrastructure, to improve citizens' quality of life, and to build modern infrastructure.	First Nations communities and municipalities with a population of less than 250,000.	"green" municipal infrastructure (i.e., water, wastewater, solid waste, public transit and environmental energy efficiency projects), roads, cultural and recreational facilities, as well as tourism and economic development projects pertaining to communications connectivity (e.g., wired and wireless broadband)
Green Infrastructure Fund (GIF)[43] 2009-10 to 2021-22	Improve the quality of the environment and lead to a more sustainable economy over the long term.	Provinces, territories, local or regional governments, public sector bodies, and other eligible non-profit organizations and private sector companies, either alone or in partnership with a province, territory or a government body.	Wastewater infrastructure, green energy generation infrastructure, green energy transmission infrastructure, solid waste infrastructure, and carbon transmission and storage infrastructure.[44]

[43] Program profile GIF-2015-09-04-v01.
[44] INFC's website. http://www.infrastructure.gc.ca/prog/programs-infc-summary-eng.html (December 27, 2018).

Program	Objective(s)	Eligible recipient(s)	Eligible funding categories
The Infrastructure Stimulus Fund (ISF)[45] 2009-10 to 2011-12	Increase the total amount of construction activity over two years by funding ready projects and leveraging funding from other government programs and the private sector.	A province, territory or local or regional government established by or under provincial or territorial statute; a public sector body that is established by or under provincial or territorial statute or by regulation or is wholly owned by a province, territory or local government; a non-profit private sector entity; and a for-profit private sector entity.	Water and wastewater, public transit, local roads, disaster mitigation, solid waste management, brownfield redevelopment, culture, airports, ports and cruise ships, municipal buildings, parks and trails, temporary housing shelters, community centres and community services, short line rail, highways and regional transit.
Inuvik to Tuktoyaktuk Highway program (ITH) 2011-12 to 2016-17	Build a highway that links Canada from coast to coast to coast and helps support long-term economic development opportunities in the region and addresses the needs of residents in local communities.	Northwest Territories Ministry of Infrastructure.	Highways and roads

[45] ISF Program profile 2010.

Annex C: INFC Expenditures by Program

Actual INFC expenditures by program for provinces and territories (2007-08 to 2012-13), in dollars

Programs	2007-2008		2008-2009		2009-2010		2010-2011		2011-2012		2012-13	
	Provinces	Territories	Provinces	Territories	Provinces	Territories	Provinces	Territories	Provinces	Territories	Provinces	Territories
GTF	763,953,171	14,250,000	966,811,593	18,000,000	1,824,374,475	48,000,000	1,720,984,261	30,000,000	2,160,848,069	45,000,000	1,934,039,431	30,000,000
PT Base	0	0	275,000,000	115,601,500	519,800,000	152,031,500	347,350,000	89,955,000	115,550,000	73,125,000	172,915,200	63,899,000
Sub-total transfer payments	**763,953,171**	**14,250,000**	**1,241,811,593**	**133,601,500**	**2,344,174,475**	**200,031,500**	**2,068,334,261**	**119,955,000**	**2,276,398,069**	**118,125,000**	**2,106,954,631**	**93,899,000**
MRIF	138,319,358	4,634,413	204,036,910	16,012,638	210,338,526	10,827,235	136,223,369	9,862,589	82,601,943	5,263,173	30,910,709	4,386,195
CSIF	887,156,634	29,643,225	459,310,198	39,144,656	399,758,037	19,844,148	325,558,530	9,732,588	183,096,849	5,000,078	233,533,843	5,655,348
ISF	0	0	0	0	488,422,183	2,306,924	2,458,226,030	8,599,945	631,202,649	2,061,027	0	0
GIF	0	0	0	0	0	5,159,772	88,196	33,449,084	1,660,911	28,105,561	110,626,778	4,285,582
ITH	0	0	0	0	0	0	0	0	0	0	0	0
NBCF-PTIC-NRP	0	0	0	0	0	0	0	0	0	0	0	0
NBCF-PTIC-SCF	0	0	0	0	0	0	0	0	0	0	0	0
NBCF-PTIC-NIC	0	0	0	0	0	0	0	0	0	0	0	0
PTIF	0	0	0	0	0	0	0	0	0	0	0	0
CWWF	0	0	0	0	0	0	0	0	0	0	0	0
sub-total contributions	**1,025,475,992**	**34,277,639**	**663,347,108**	**55,157,295**	**1,098,518,746**	**38,138,080**	**2,920,096,125**	**61,644,206**	**898,562,351**	**40,429,840**	**375,071,330**	**14,327,125**
Total	*1,789,429,163*	*48,527,639*	*1,905,158,702*	*188,758,795*	*3,442,693,220*	*238,169,580*	*4,988,430,386*	*181,599,206*	*3,174,960,420*	*158,554,840*	*2,482,025,961*	*108,226,125*

Actual INFC expenditures by program for provinces and territories (2013-14 to 2017-18) in dollars

Programs	2013-14		2014-15		2015-16		2016-17		2017-18		**Total**	
	Provinces	Territories	Provinces	Territories	Provinces	Territories	Provinces	Territories	Provinces	Territories	Provinces	Territories
GTF	2,024,364,500	82,500,000	1,928,269,432	45,000,000	1,928,269,432	45,000,000	2,054,272,191	47,816,069	2,024,682,904	47,250,000	19,330,869,459	452,816,069
PT Base	138,500,000	52,931,000	25,000,000	0	50,000,000	0	3,050,000	0	22,500,000	0	1,669,665,200	547,543,000
Sub-total transfer payments	**2,162,864,500**	**135,431,000**	**1,953,269,432**	**45,000,000**	**1,978,269,432**	**45,000,000**	**2,057,322,191**	**47,816,069**	**2,047,182,904**	**47,250,000**	**21,000,534,659**	**1,000,359,069**
MRIF	38,969,208	3,368,465	7,276,896	2,133,663	0	0	0	0	0	0	848,676,919	56,488,373
CSIF	184,893,844	11,740,482	231,355,993	2,017,474	132,569,598	9,163,843	51,676,460	2,368,755	47,393,681	279,230	3,136,303,667	134,589,827
ISF	0	0	0	0	0	0	0	0	0	0	3,577,850,861	12,967,896
GIF	84,567,663	0	36,862,072	0	11,378,170	0	44,958,101	0	28,542,018	0	318,683,909	71,000,000
ITH	0	0	0	79,275,000	0	51,375,000	0	57,000,000	0	6,350,000	0	194,000,000
NBCF-PTIC-NRP	0	0	11,066,545	0	41,528,898	0	85,658,031	34,312,836	298,880,282	23,544,481	437,133,756	57,857,317
NBCF-PTIC-SCF	0	0	0	0	12,093,038	0	96,379,172	17,389,564	112,398,604	35,969,452	220,870,814	53,359,016
NBCF-PTIC-NIC	0	0	0	0	3,069,122	0	15,379,869	0	3,694,035	0	22,143,027	0
PTIF	0	0	0	0	0	0	37,169,257	0	244,268,191	26,647	281,437,448	26,647
CWWF	0	0	0	0	0	0	5,580,241	1,510,797	409,303,441	11,490,374	414,883,682	13,001,172
sub-total contributions	**308,430,715**	**15,108,947**	**286,561,506**	**83,426,137**	**200,638,826**	**60,538,843**	**336,801,131**	**112,581,953**	**1,144,480,252**	**77,660,185**	**9,257,984,082**	**593,290,250**
Total	*2,471,295,215*	*150,539,947*	*2,239,830,938*	*128,426,137*	*2,178,908,258*	*105,538,843*	*2,394,123,322*	*160,398,022*	*3,191,663,156*	*124,910,185*	*30,258,518,741*	*1,593,649,319*

Annex D: Methodology

The level of assurance differs between internal audit and evaluation. Internal audit work was conducted in accordance with the Institute of Internal Auditors' International Standards for the Professional Practice of Internal Auditing and the Treasury Board *Policy on Internal Audit*. Evaluation work was conducted in alignment with the Program Evaluation Standards of the Canadian Evaluation Society and the Treasury Board *Policy on Results*.

The combined engagement used the following lines of evidence.

Document and Literature Review

The document and literature review provided the context for infrastructure in Canada as well as in the territories and provided an understanding of the unique socio-economic, demographic and geographic challenges faced by the territories. Information reviewed included: departmental and program-specific documents such as terms and conditions, annual reports and progress reports, and reports and studies related to infrastructure.

Administrative and Financial Data

To assist in providing a profile of infrastructure in the territories, an analysis of the number and type of projects approved and funded, as well as of financial data, was performed.

In addition, data from Canada's Core Public Infrastructure (CCPI) survey was reviewed to assess the current state of infrastructure in Canada and specifically the territories.

Individual and Group Interviews

A total of 49 interviews were conducted with INFC and territorial employees, as well as ultimate recipients. The distribution of interviews is as follows:

Interviewee positions	**Number of interviews**
INFC Management	1
INFC Program staff	11
Territorial government	25
Community	12
Total 49	

Group interviews were conducted in various communities in the territories as part of the case studies to gather information from local residents, and solicit their opinions on projects, and are reflected in the Community category in the table above.

Logic Model

As part of this combined engagement, the audit and evaluation team, in consultation with the program area, developed a logic model for all INFC programs. A logic model is a graphic representation of the inputs, activities and processes applied. It implies a chain of causes and effects leading to the desired outcomes.

Audit

We examined the adequacy and effectiveness of various management controls related to governance, risk management and internal controls for transfer payments.

Control elements included those related to project monitoring, risk management, claims, and reporting.

INFC Logic Model for Programs in the Territories