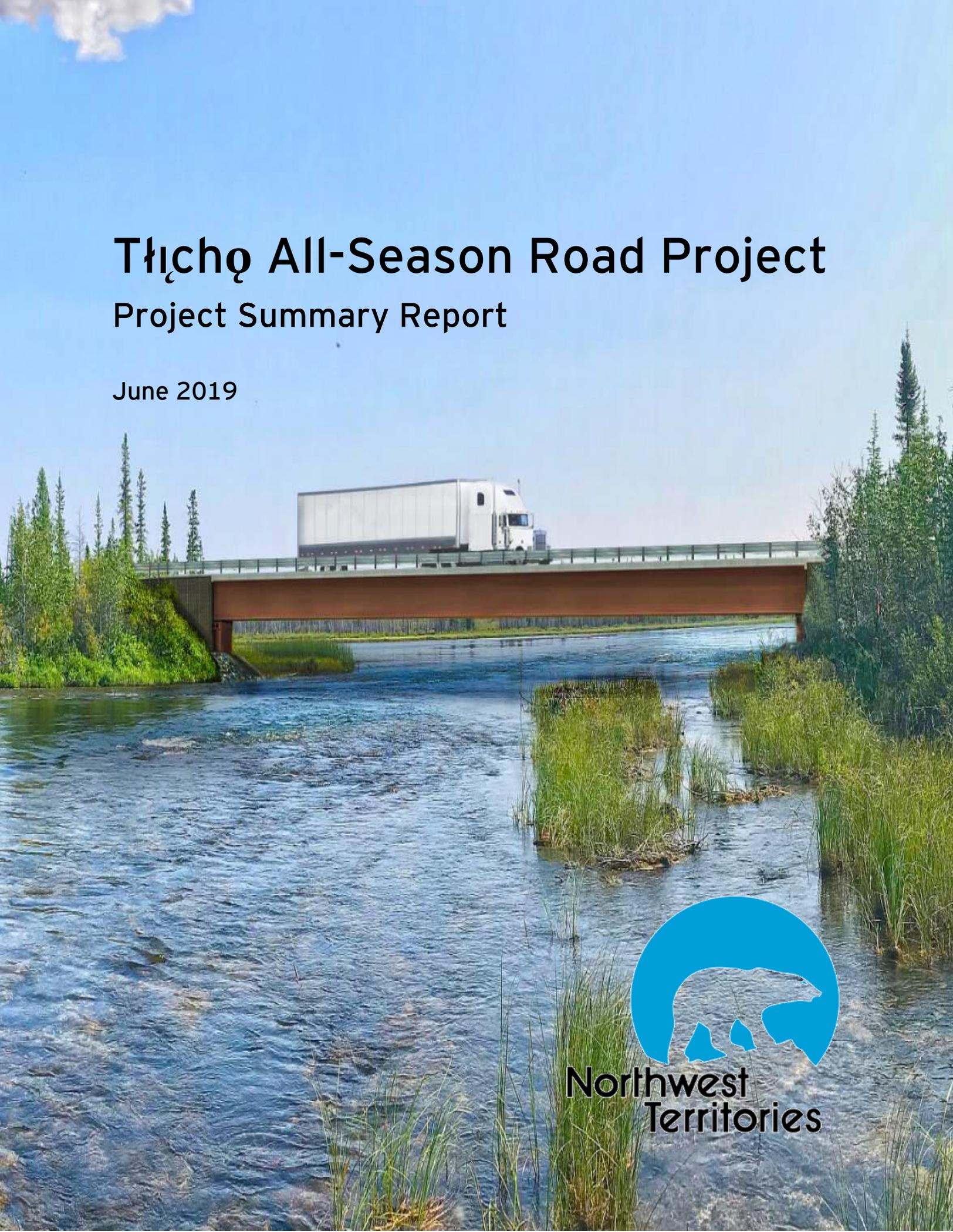


Tłı̄chǫ All-Season Road Project

Project Summary Report

June 2019



Northwest
Territories

Purpose of this Project Report

The purpose of this report (“**Project Report**”) is to provide key information to the public about the Tłı̨ch̨o All-Season Road Project (“**TASR**” or the “**Project**”). The Project Report describes the:

- Need for the Project
- How it will be delivered
- How different procurement delivery methods were analyzed
- How project benefits and innovations are expected to be achieved

A summary of the key aspects of the Project Agreement is also provided at Section 4 of this Project Report.

In all its procurement processes, the Government of the Northwest Territories (“**GNWT**”) is committed to a high standard of disclosure as part of its accountability for the delivery of public projects. Departments, Crown Corporations and other government agencies are publicly accountable for projects through regular budgeting, auditing and reporting processes.

Defined Terms and Abbreviations

Capitalized terms used in this Project Report that are not defined are set out in the Glossary of Terms at Section 6 of this Project Report.



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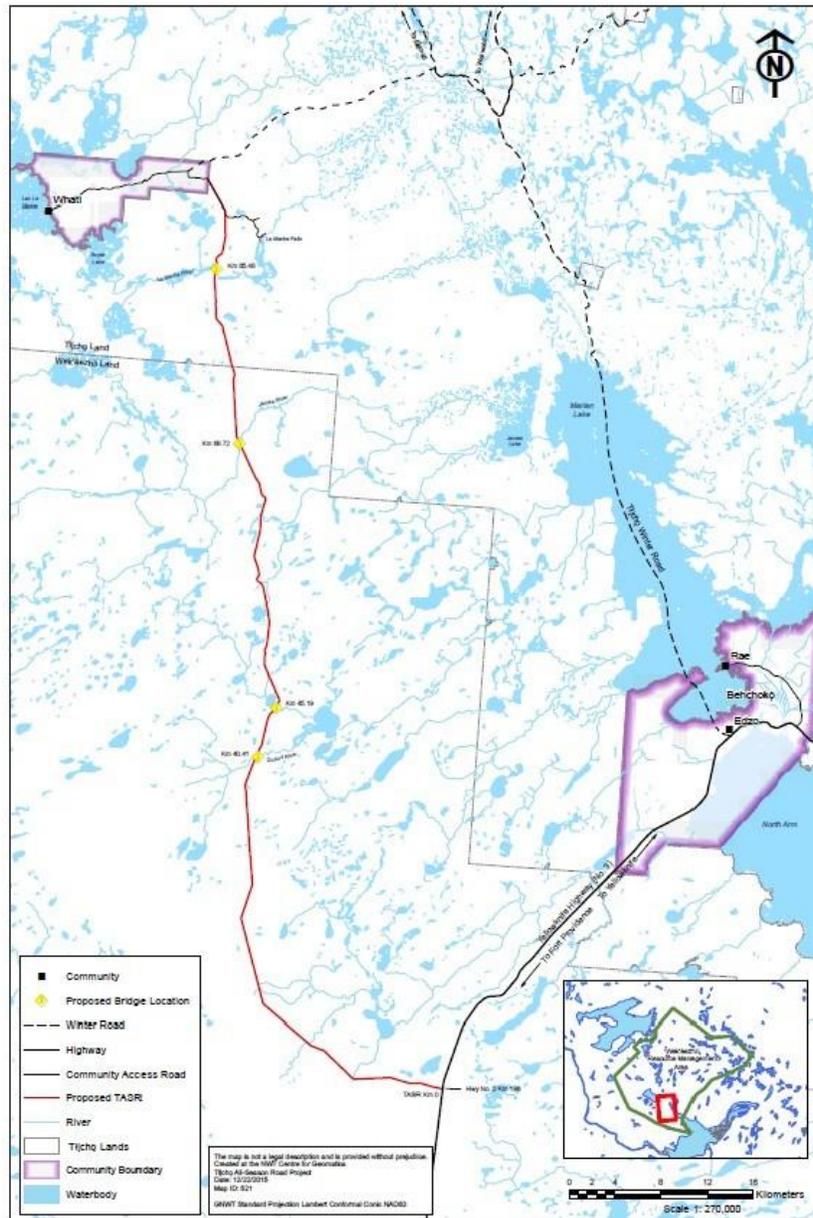
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1. Executive Summary

The Project involves the designing, planning, delivery and maintaining of 97km of all-season gravel road, from Highway 3, near Behchokq, through to the community of Whatì, as shown in Figure 1 below. The Project will provide year-round access to Whatì, as well as increase the winter road operational season to Gamètì and Wekweètì by thirty to sixty days, each year.

Figure 1 - Project Overview Map



The Project is a priority for the GNWT, as it will provide important economic and community benefits, including:

- Improving residents' ease of access to various healthcare services currently unavailable in remote and isolated communities
- Reducing the cost of living through improved access to goods and services
- Enhancing employment, training, contracting and education opportunities during road construction and maintenance
- Improving opportunities for inter-community travel
- Mitigating the impact of climate change and community reliance on the winter road system improving community re-supply options and costs
- Improving logistics, access and reduction in costs for natural resource exploration and development

The procurement process for the Project began in March 2017 with the RFQ phase. Three teams were shortlisted for the RFP Phase in September 2017:

- Aurora Access Partners
- NAE Transportation Partners
- North Star Infrastructure

In February 2019, following a competitive selection process based on the principles of openness, fairness, and transparency, the GNWT entered into a performance based, fixed price Project Agreement with North Star Infrastructure ("NSI") to deliver the Project. NSI will design, build, finance, operate, maintain and perform life cycle rehabilitation on the all-season road ("ASR") for a 25-year term following construction of the ASR.

NSI will provide a range of services during the operating period including:

- Maintaining continuous use for road users
- Working with and engaging the local community
- Emergency and incident response to any event that impacts the operability of the ASR
- Construction and traffic management over a 25-year operating phase including routine, planned and unplanned maintenance
- Returning the road to the GNWT at the end of the 25-year operating phase in alignment with the defined Project handback requirements
- Integrating Tłı̄ch̄o and northern businesses and citizens into the Project through construction and operations

NSI will receive a monthly service payment for these services, subject to meeting pre-defined performance standards, including road availability and quality of service. Payments will be reduced if NSI does not meet the performance standards contained within the Project Agreement.

The Project is estimated to achieve value for money of \$54.8 million in Net Present Cost (“NPC”) terms, when compared to the traditional procurement (Design-Bid-Build), with a significant proportion of Project risk transferred from the GNWT to NSI, including construction schedule and cost risk, and cost and performance risk over the operating period.

The Project included several unique aspects, including the inclusion of an unprecedented level of Tłı̨ch̨o and northern business and citizen participation (for a North American Public Private Partnership (“P3”) transaction) and the development and implementation of a first of its kind climate change risk sharing regime. Further, the Tłı̨ch̨o Government was also offered an option, which it exercised, to participate as a 20% equity owner in NSI.

The local participation element included a requirement for NSI to include significant levels of Tłı̨ch̨o and northern businesses and citizens into their teams for the delivery of the construction and operations phases of the Project, and linked financial deductions and incentives to the under or over achievement of those targets. In addition to this, detailed training requirements were developed that require NSI to train Tłı̨ch̨o citizens to certain levels through the contract term.

The climate change risk sharing regime was designed to address the increased risk from climate change that existed on the Project. The risk was emphasized due to the nature and location of the Project, a 97km ASR in the 63rd parallel, being built in an area with variable permafrost conditions. To assist Proponents in understanding and effectively pricing this risk, the GNWT developed a regime that utilized various climate modelling tools to define a range of expected climate outcomes. Impacts to the ASR due to conditions within this range of climate outcomes are to be borne by the private partner. In the case that climate change exceeds the ranges set by the GNWT, any financial implications will be shared between the GNWT and the private partner (to a predetermined cap). This mechanism allowed Proponents to understand and effectively price the risk, helping ensure value for money was achieved for the GNWT.

An independent external Fairness Advisor, RFP Solutions, was engaged as an independent observer to monitor the competitive selection process, and concluded that the process they observed was carried out in a fair, open and transparent manner.



2. Project Overview

2.1 Background and Objectives

The Tłıchq ASR is a quality of life, community access, and economic development priority for the Northwest Territories (“NWT”), providing essential infrastructure for growth in commercial and remote areas, now and in the future.

The Tłıchq Settlement Area (“TSA”) is home to approximately 3,000 people, and is comprised of the communities of Behchokq, Gamètì, Wekweètì, and Whatì. Behchokq is located an hour northwest of Yellowknife along Highway 3 and is the only community in the TSA with year-round access. The remaining Tłıchq communities have no permanent year-round access roads, and are reliant on air-service and a winter road system.

The GNWT Department of Infrastructure (“DOI”) currently operates and maintains the winter road system in the TSA servicing the communities of Whatì, Gamètì, and Wekweètì. This system, approximately 480km in length, is open for 78 days a year on average between Highway 3 and Whatì. This small operating window represents the only time that residents can travel to the south, other than by air. Efforts to improve the winter road system have been a long-standing issue for the GNWT and the affected communities, with the Tłıchq Government pursuing the development of an ASR to Whatì since 1999.

The proposed Project will provide the community of Whatì with year-round access and extend the winter road season between Gamètì & Wekweètì by an estimated thirty to sixty days. The TSA currently faces a quality of life that is different from its southern counterparts, including limited access to healthcare services and other quality of life services as well as a relatively high cost of living. The isolation of the region limits employment opportunities and hinders economic development. Further challenging the region is the impacts of climate change, which risks compromising the long-term viability of the winter road system. The Project benefits, along with additional benefits, are outlined in more detail in Section 2.3, below.

2.2 Scope of the Project

The Project will change the winter road from its existing alignment between Yellowknife Highway 3 and Whatì to a new overland ASR alignment which, follows as close as possible to an already disturbed route that was used as an overland winter road alignment up until the 1980s.

The ASR will be designed to include:

- A two-lane, 97km gravel road with a design speed of 80km/h for year-round use by commercial and private vehicles
- Sixteen water crossings, twelve of which will require culverts and four of which will require bridges

The 25-year maintenance and operating period will encompass regularly scheduled inspection and upkeep of the gravel road including grading, leveling, and patch work as necessary to keep the road functioning to safety and usage specifications. Road maintenance also includes snow clearance and de-icing during the winter months.

Upon expiry of the TASR contract, 25 years after operational commencement, the TASR is to be returned to the GNWT in a condition that complies with the Project Agreement. Through a series of inspections that will be conducted in the years leading up to the contract expiry, the remaining service life of each class of asset (including roadway surfaces, bridges, retaining walls and treatment types) will be assessed against the minimum requirements outlined in the PA. This process will identify any works required to ensure that the TASR and each element of the TASR will meet the handback requirements on the expiry date.

2.3 Project Benefits

The Project is anticipated to deliver significant benefits to the citizens of the TSA and the wider NWT. An ASR to Whatì will significantly reduce travel costs to both Whatì and the wider TSA. This will allow faster and more regular access to the region, which will result in benefits accruing in the following areas:

- Improved health, social and education outcomes
- Reduced cost of living
- Increased employment opportunities
- Increased economic development opportunities for the NWT

The primary reason for these benefits is improved access to the region. Currently, the average number of operating days for the winter road is 78 days¹, which equates to only 21% of yearly road access. Outside of this period access to the community of Whatì is only by air.

The Tłı̄chǫ winter road system costs the GNWT Department of Infrastructure approximately \$2.3 million to construct. The cost per km has risen from \$1,050 in 2004 to \$4,935 in 2014 - almost a five-fold increase across a decade². With climate change forecasted to impact ice conditions, there is significant risk that costs will continue to rise and that the operating season will decrease despite improvements in processes and technology. An ASR will improve the accessibility to the south despite the variability and unpredictability of the weather.

2.3.1 Quality of Life Impacts - Improved Health, Social and Education Outcomes

The TSA, along with many other northern Aboriginal settlements, has limited access to health

¹ 2015, Eleke tse di – Watch Each Other: A Socio-Economic Issues Scoping Study for a Potential All-Weather Road to Whatì, Tłı̄chǫ Region, Northwest Territories

² <https://www.cbc.ca/news/canada/north/whatì-winter-road-permit-tlı̄chǫ-1.3522499>

and social services. Health care in Whatì is mainly provided by registered nurses, local community workers, and one full-time mental health counselor and social worker at the Community Health Centre, with a doctor visiting the community once a month. Specialist and chronic care services are only provided in Yellowknife or southern facilities, requiring travel out of the community at significant inconvenience for residents, and cost to the GNWT. Medical travel to Yellowknife is a reality for many of those in remote NWT communities³.

An ASR to the community will increase the ability to mobilize resources into the TSA, especially emergency response and after-hours social service resources. There may also be the potential to add or extend services into the region, such as road ambulance service.

Additionally, access to educational and recreational opportunities will increase with the addition of an ASR. Currently, each community event or visit (to or from the TSA) is expensive, and prohibits the interaction between students and families in the TSA and those in other parts of the NWT, including through sport and academic events. An ASR will increase the potential for students to participate and compete in other communities. Furthermore, road connectedness with Yellowknife will help improve professional retention in Whatì, which often suffers due to the isolation of the community.

2.3.2 Reduced Cost of Living

The lack of basic transportation infrastructure contributes to a high cost of living throughout the TSA. The remoteness and isolation of the TSA have significant effects on the cost of food and shelter for residents, through:

- **Supply issues, risks and shortages:**
Food costs in the TSA communities are up to 46% higher than in Yellowknife and the overall cost of living, including shelter, is up to 55% higher than in Edmonton⁴. Food security is an issue, and if the winter road system is not operating or must be closed early due to unfavorable weather, the communities are at risk of delayed or cancelled food supply.
- **Cost of equipment and housing:**
An ASR to Whatì will reduce the cost of purchasing equipment for personal and / or traditional use, as well as the cost of building and maintaining housing and other assets. One of the major drivers of construction prices is high mobilization costs, which are expected to be mitigated as construction crews can look at timely delivery for equipment and materials as opposed to one large transfer in the winter road season.
- **Fuel costs:**

³ State of Rural Canada Report: Northwest Territories (2015). Canada Rural Revitalization Foundation

⁴ Summary of NWT Community Statistics (2015). GNWT Bureau of Statistics

Fuels, including heating fuel, are forecast to be more affordable to residents and an ASR should allow residents to access fuels as needed, rather than stockpiling a year's supply at inflated rates.

2.3.3 Increased Employment Opportunities

The winter road system also affects employment prospects in the TSA, limiting residents' ability to access well-paying and fulfilling employment. The NWT labour pool is generally very tight, with an unemployment rate of only 7.0 percent (March 2019), comparable to the Canadian average of 6.2 percent⁵. However, the TSA has one of highest unemployment rates, the highest proportion of low-income households, and the highest proportion (61%) of individuals that make less than \$30,000 per year in the region⁶. With an ASR people in the TSA will be better able to access education and employment opportunities and participate in the growth of the NWT economy.

2.3.4 Increased Economic Development

Northern Canada is home to a vast wealth of natural resources, but development is inhibited due to inaccessibility in the region. The accessibility of transportation infrastructure is an important factor in all phases of a mining project, from initial grassroots exploration through to operations and close out. Accessibility to reliable transportation infrastructure can result in more effective project planning, reductions in capital and operating costs, reduction in project risks and increased investor confidence.



⁵ https://www.statsnwt.ca/indicators/employment_unemployment/

⁶ 2016 Census, Statistics Canada

3. Competitive Selection Process

In accordance with GNWT's P3 Management Framework⁷, GNWT undertook a procurement options analysis to determine an optimal procurement method for the Project. Qualitative and quantitative analyses resulted in the P3 method in the form of a Design Build Finance Operate Maintain ("DBFOM") model being determined as the procurement method that would deliver the highest value for the GNWT. Further discussion of the procurement options analysis is provided in Appendix A.

The procurement followed a rigorous, competitive, open, transparent and fair process. A two-step process based on Canadian best-practice precedents was undertaken, entailing a Request for Qualifications ("RFQ") phase and a Request for Proposals ("RFP") phase. These phases are described further below.

3.1 Request for Qualifications

The release of the RFQ initiated the procurement phase of the Project by inviting interested teams to indicate their interest in the Project. The RFQ was issued on 20 March 2017, with seven respondents making submissions. The evaluation considered each team's financial capacity to undertake the Project and their technical experience of delivering projects of a similar scope and size. All seven teams were evaluated in accordance with the evaluation process by the evaluation committee, which included representatives from the Department of Infrastructure and Department of Finance, whom were assisted as required by external expert advisors. Three teams were shortlisted for the RFP stage:

⁷ GNWT P3 Management Framework dated 11/5/2012

Table 1 - Short-listed Proponent Teams⁸

Name	Design	Construction	Equity Financing	Service Provider
Aurora Access Partners	<ul style="list-style-type: none"> - Tetra Tech Canada Inc. - COWI North America, Ltd. 	<ul style="list-style-type: none"> - Graham Infrastructure LP - Colas Project S.A.S. - E Grubens Construction Ltd. - NWT Construction Ltd. - Nuna Logistics Ltd. - EGT Northwind Ltd. 	<ul style="list-style-type: none"> - Graham Capital Partners LP - Colas Canada Inc. - Colas Projects Canada Inc. - Tłıchǫ Government (optional) 	<ul style="list-style-type: none"> - Graham Infrastructure LP - Colas Canada Inc - Colas Projects S.A.S. - NWT Construction Ltd. - Alberta Highway Services Ltd.
NAE Transportation Partners	<ul style="list-style-type: none"> - Stantec Consulting Ltd. 	<ul style="list-style-type: none"> - Eiffage Génie Civil - North American Enterprises Ltd. - Innovative Civil Constructors Inc. 	<ul style="list-style-type: none"> - Eiffage S.A. - North American Construction Group Inc. - LaPrairie Works Inc. - Tłıchǫ Investment Corporation - Tłıchǫ Government (optional) 	<ul style="list-style-type: none"> - LaPrairie Works Inc.
North Star Infrastructure	<ul style="list-style-type: none"> - Hatch Corporation - Thurber Engineering Ltd. 	<ul style="list-style-type: none"> - Kiewit Canada Development Corporation - Peter Kiewit and Sons ULC 	<ul style="list-style-type: none"> - Kiewit Canada Development Corporation - Tłıchǫ Government (optional) 	<ul style="list-style-type: none"> - Kiewit Canada Development Corporation - Peter Kiewit and Sons ULC

3.2 Request for Proposals (“RFP”)

The RFP required each Proponent to submit a proposal to design, build, finance, operate and maintain the Project. During the RFP stage, three confidential collaborative meetings (and one additional ad hoc collaborative meeting) were held with each Proponent, allowing them the opportunity to discuss issues or concerns related to commercial, legal, design and construction, and operational elements of the Project.

Prior to the closing date for submissions, a final draft Project Agreement was issued, and served as the common basis for all proposals.

The timeline of the competitive selection process is outlined in the table below.

⁸ Table reflective of final teams as submitted in the RFP Responses, some minor changes occurred between RFQ and RFP, which were assessed and approved by the GNWT and its Fairness Advisor

Table 2 - Competitive Selection Process Timeline

Procurement Stage	Timing	Outcome
RFQ	March 2017 to September 2017	The Project was marketed locally, provincially, nationally and internationally. Seven respondents were evaluated and three were invited in September 2017 to participate in the RFP process.
RFP	December 2017 to November 2018	Three teams participated in the RFP process and submitted proposals.
Selection of Preferred Proponent	November 2018	After evaluation of the proposals, North Star Infrastructure was selected as the Preferred Proponent.
Project Agreement Finalization	February 2019	The Project Agreement was signed by GNWT and North Star Infrastructure.

3.3 Evaluation of Proposals

Proponents were required to submit a Technical Submission and Financial Submission as part of the RFP process. The overall objective of the evaluation was to select the proposal that best met the requirements of the RFP and achieved Value-for-Money for the GNWT. An evaluation committee was appointed to evaluate the proposals based on the criteria set out in the RFP and to recommend a Preferred Proponent.

3.3.1 Technical Submissions

Scoring in accordance with an Evaluation Framework was undertaken on the Technical Submissions, and was divided across the following categories:

- Proposed design and technical solution
- Construction period (Construction, quality, environmental and safety management, and schedule and phasing)
- Operation period (Operations, quality, environmental and records management, and handback approach)
- Local content

Following Proponents' submission of the Technical Submission, the evaluation committee determined whether these submissions contained any material non-compliances and whether they satisfied the mandatory requirements of the RFP and the Project Agreement. Once it

was determined that the Technical Submissions had met the mandatory requirements and were compliant, they were scored for each section based on predetermined attributes, which combined, resulted in the total score for the Technical Submission.

3.3.2 Financial Submissions

Proponents were required to submit a Financial Submission following the submission of their Technical Submissions. The evaluation of the Financial Submissions consisted of two steps:

- The first step was to determine whether they substantially satisfied the financial requirements, which included the capacity of the proponent team to undertake the Project obligations, the provision of sufficient committed financing and a robust and deliverable financial plan
- If the Proponent satisfied all criteria in the first step above, the NPC was evaluated. NPC represents the sum of total payments made by GNWT to the Proponent over the construction and operations terms discounted to today's dollars. Proponents were assigned a score based on their NPC

Affordability Threshold

In addition to the evaluation criteria described above, the RFP included an affordability threshold (or "**Capital Cost Ceiling**"). This criterion sought to ensure that the GNWT received affordable proposals in the context of the available budget for the Project. This Capital Cost Ceiling was set at \$200 million in nominal terms, and captured all development, construction and commissioning costs (including interest costs and financing fees). If the Capital Cost Ceiling was not met, GNWT had the option to decide not to complete a detailed evaluation of the respective Proposal.

All three Proponents met this criterion.

3.3.3 Overall Outcome

Based on the final scoring of the Technical and Financial Submissions from the three Proponents, it was determined that NSI had the highest overall score. The evaluation committee recommended NSI as the Preferred Proponent, and the Financial Management Board accepted that recommendation.

3.4 Fairness Advisor

A Fairness Advisor, RFP Solutions, was engaged by GNWT to monitor the competitive selection process and offer an assessment about the procedures, opining on whether or not the competitive selection process was carried out in a fair and reasonable manner.

The final Fairness Advisor's report has been released publicly and determined that:

"It is our professional opinion that the process we observed, has been carried out in a fair, open and transparent manner."

- *The planning, development, issuance, evaluation and ranking of Proponents, identification of Preferred Proponent and achievement of Financial Close were carried out by the Authority in a fair, open and transparent manner and respected all the principles of fairness, and were free from bias or favouritism;*
- *The assessment methodology used by the Authority was consistent with that published in the RFP, and the assessment process associated with this RFP was conducted in an equitable, objective, impartial and consistent manner; and Proponents were notified of the outcomes of the RFP process in a timely manner and provided opportunity to receive debriefing on their results in the process."*



4. The Final Project Agreement

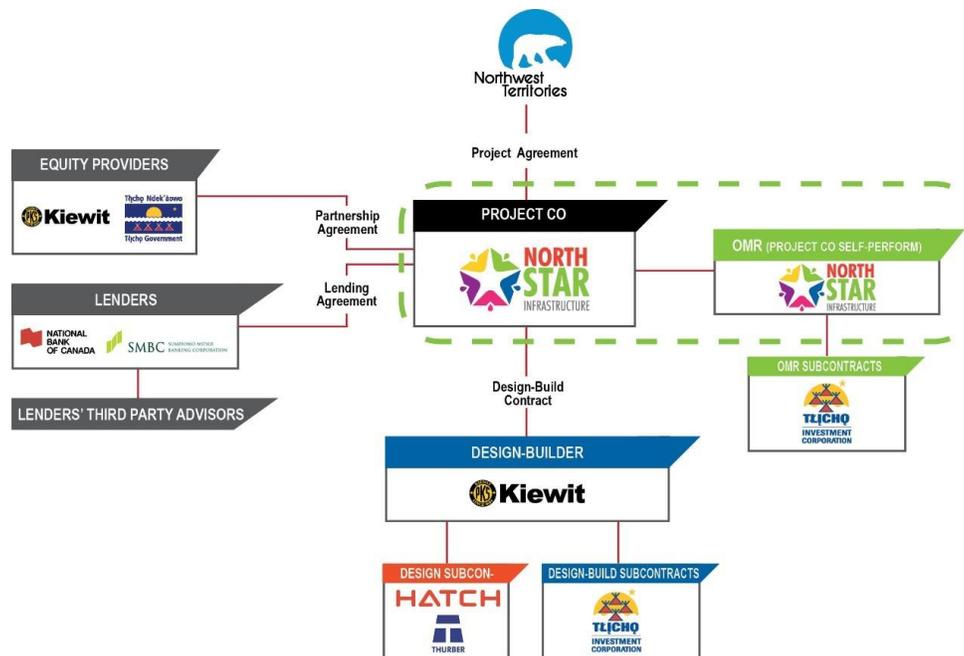
4.1 Overview

Private partner	North Star Infrastructure
Owner	Government of the Northwest Territories
Government contributions to capital cost	\$110.4 million, contributed upon NSI reaching Substantial Completion in accordance with the Project Agreement
Construction complete	November 2021
Term of the Project Agreement	25-year operating term plus construction
Total Service Payments over the operating term of the Project	\$301.4 million nominal, assuming 2% inflation

4.2 Profile of the Private Sector Partner

NSI is the private partner for the Project. NSI is a consortium of companies qualified through the RFQ and RFP processes, consisting of the key members identified in the figure below:

Figure 2 - North Star Infrastructure Organization Structure



4.3 Key Terms of the Project Agreement

Under the terms of the Project Agreement, NSI has an obligation to design, construct, finance, operate and maintain the Project in accordance with the specifications set out in the Project Agreement, and will receive payment based on the fulfilment of these obligations. Key features of the Project Agreement include the requirements for NSI to:

Construction Phase:

- Arrange financing for the full construction cost of the ASR, with GNWT contributing \$110.4 million by way of a Substantial Completion Payment
- Design and construct the ASR to the agreed specifications and in accordance with the proposed schedule
- Adhere to environmental obligations

Operations Phase:

- Ensure the ASR is open and available for use by the public, and is maintained to the standards specified in the Project Agreement
- Perform regular inspections of the ASR, and maintain the road, including snow clearance and de-icing, grading, leveling, repair and replacement work
- Perform lifecycle repairs and maintenance of the road surfaces, culverts and bridges
- Conform to handback requirements at the end of the term
- Adhere to environmental obligations

Local Content Requirements:

- Adhere to predetermined minimum levels of involvement of Tłı̨ch̨o and northern businesses and citizens through the construction and operations periods
- Meet or exceed the Tłı̨ch̨o training requirements, which specify positions that Tłı̨ch̨o citizens must be trained for and employed into through the construction and operations periods

4.4 Tłı̨ch̨o Government Project Equity

Under the Project Agreement, the Tłı̨ch̨o Government exercised an option built into the RFP which allowed them to take a 20% equity stake in the private partner that will develop the Project. As a result, the Tłı̨ch̨o Government will:

- Have representation at a decision-making level within NSI ensuring the best interests of the Tłı̨ch̨o people are kept front of mind through the construction, operations and maintenance of this critically important project
- Have a material, direct financial interest in the project, with the potential to earn market level returns on that financial interest through the life of the Project

- Have aligned interests and incentives with all parties involved, as they will share in the rewards (financial and social) of successful Project outcomes

4.5 Performance-Based Payment Principles

GNWT will make a payment to NSI when Substantial Completion is achieved. Once construction is complete and Service Commencement has been achieved (the requirements of which are set out in the Project Agreement), NSI will begin receiving Service Payments from GNWT.

Service Payments will be made monthly and are based on the availability of the ASR, and the quality of operating and maintenance services provided by NSI (measured against predetermined service requirements). Performance will be continuously monitored based on key performance indicators. If the performance standards in the Project Agreement are not met, GNWT may apply deductions to the Service Payments.

4.5.1 Adjustments to the Substantial Completion Payment

The construction period Substantial Completion payment may be adjusted for the following factors:

- **Construction Period Deductions:** Compliance points may be accrued for compliance failures through the construction period, and these will result in deductions from the Substantial Completion Payment.
- **Tłıchq Incentive Payments or Deductions:** As specified in the Project Agreement, Construction period incentive payments and deductions could be applied if NSI exceeds or does not meet the Local Content Requirements as outlined in Section 4.3.
- **Holdbacks:** The GNWT is entitled to hold back a portion of the Substantial Completion Payment if deficiencies exist at Substantial Completion. The deficiencies and quantum of the holdback (if any) will be determined by NSI, the GNWT and the Independent Certifier.

4.5.2 Adjustments to the Service Payments

The Service Payments may be adjusted according to the specific terms stated in the Project Agreement, including:

- **Operating Period Deductions:** Availability and Compliance Points may be accrued for the unavailability of the ARR, compliance failures or failure to meet the local content requirements through the operating period, and these will result in deductions from the Service Payment in the period the Availability and Compliance Points are accrued. The deductions have been calibrated to be relative to the severity of the failure.
- **Indexation:** A portion of the Service Payments will be adjusted for the consumer price index on an annual basis, intended to reflect the proportion of index-linked operating period costs relative to the overall cost base of the Contractor.

- **Annual Average Daily Traffic (“AADT”) Adjustment:** If the daily traffic volumes exceed a pre-determined annual per-day average on the Tłı̄chǫ ASR, a supplement will be paid to NSI to compensate for the additional operating, maintenance and rehabilitation costs that are expected to be incurred.
- **Tłı̄chǫ Incentive Payments:** GNWT will pay NSI a fixed amount for each percentage point that NSI exceeds the requirements of the Local Content Requirements, up to a specified maximum amount.
- **Other areas:** Including change in law, compensation events, GNWT requested changes, etc.

4.6 Climate Change Risk Sharing

Climate change was identified by all Proponents as a key risk in the delivery of the Project. To assist Proponents in understanding and effectively pricing this risk, the GNWT developed an innovative regime that utilized various climate modelling tools to define a range of expected climate outcomes. These climate outcomes will be monitored over the operating period, specifically looking at temperature, precipitation, and the percentage of precipitation that falls as rain. These three metrics were determined to have the most impact on the performance of the road and can be objectively measured and recorded.

The Project must be designed to be resilient to climate change. In the event that climate change causes the measured factor to exceed the ranges set by the GNWT, any financial implications will be shared between the GNWT and the private partner (to a predetermined cap).

This innovative and collaborative mechanism was developed through the RFP open period, and ultimately allowed Proponents to fully understand and effectively price the climate change risk, ensuring value for money was achieved for the GNWT. This is the first project in Canada to adapt this kind of mechanism.

4.7 Risk Allocation Summary

One of the benefits of P3 procurement models is that there is greater opportunity to ensure that risks are allocated to the partner who is best equipped to manage them. This reduces the costs attributed to risks and improves value for money. The Project Agreement includes detailed risk allocation provisions over the construction period and 25-year operating term. This approach transfers risks to NSI, such as construction, cost and schedule, and adds value through design and private sector innovation.

The table below summarizes key risks that are retained by GNWT, transferred to NSI or shared between the two parties.

Table 3 - Risk Allocation Summary

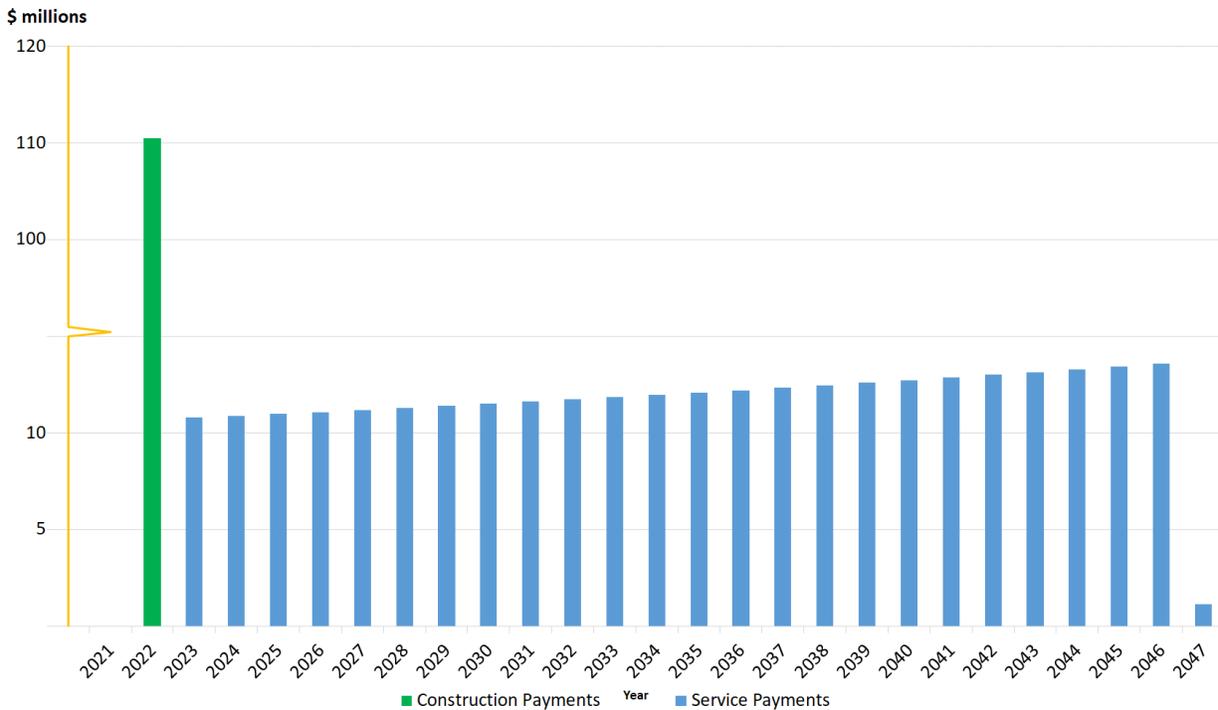
Risk	Retained by GNWT	Transferred to NSI	Shared
Approvals & Procurement			
Government Project approvals	✓		
Procurement - schedule delay	✓		
Ambiguities in legal agreements			✓
Termination for convenience during construction or operations	✓		
Interest base rate - pre-Financial Close	✓		
Design & Construction Period			
Stakeholder Consultation before financial close	✓		
Stakeholder Consultation after financial close			✓
Scope changes (owner-initiated)	✓		
Compliance with codes and standards during design		✓	
Construction delays (owner-initiated)	✓		
Construction management efficiency/coordination and schedule adherence		✓	
Construction resource availability - labour, materials, equipment		✓	
Geotechnical			✓
Existing contamination and archaeological finds	✓		
Environmental conditions of approval		✓	
Construction contractor default		✓	
Quality Management		✓	
Weather-related construction delays		✓	
Commissioning delays		✓	

Risk	Retained by GNWT	Transferred to NSI	Shared
Unresolved deficiencies		✓	
Latent defect - construction		✓	
Maintenance Period			
Facility maintenance costs - preventative and routine		✓	
Life cycle capital maintenance		✓	
Default of NSI			✓
Inflation risk above CPI		✓	
Asset residual		✓	
Climate Change that impacts the ASR			✓

4.8 Financial Summary

The chart below demonstrates the projected Construction Payments and Service Payments to NSI from GNWT, assuming 2% annual CPI and no deductions for non-performance.

Figure 3 - GNWT cash flows to NSI (\$ millions)

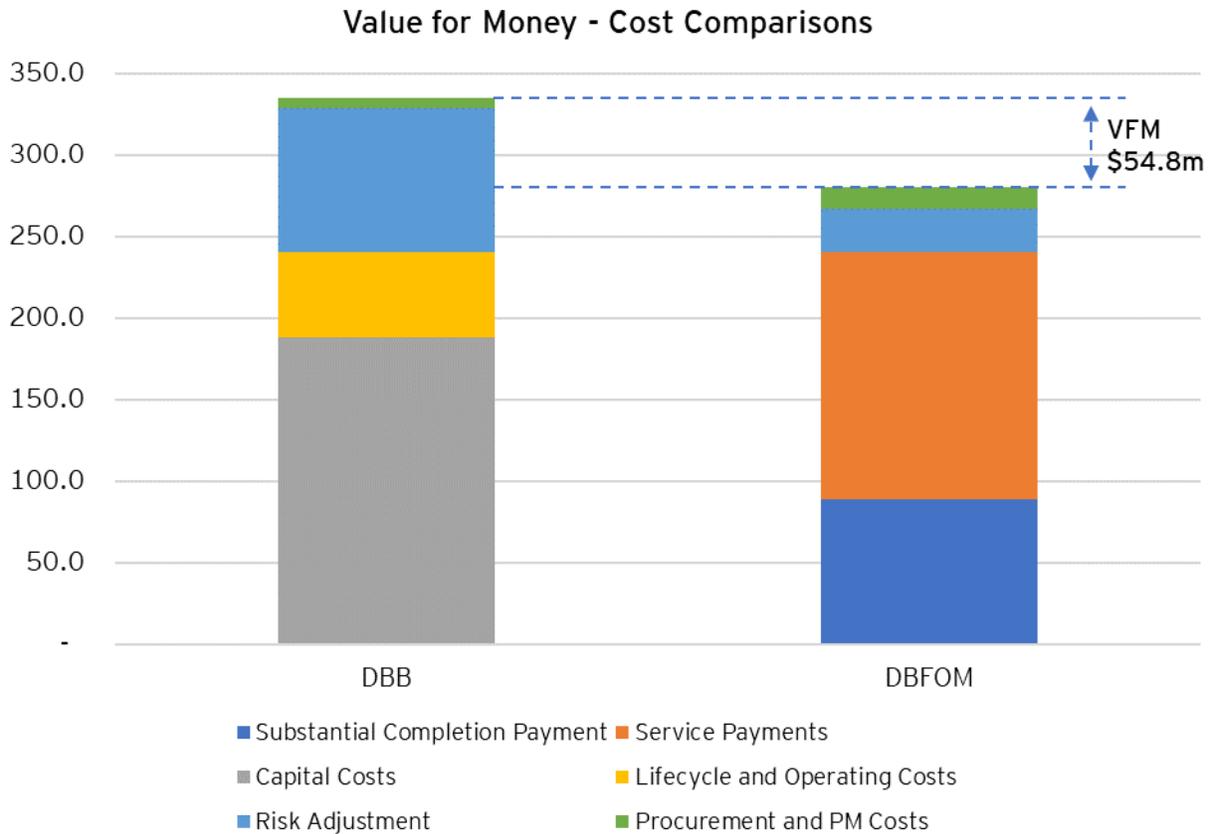


4.9 Quantitative Benefits

The estimated NPC of the Project cash flows delivered using a DBB approach is \$335.2 million. The estimated NPC of the Project delivered using NSI’s proposal under a DBFOM approach is \$280.4 million. A comparison of these numbers is provided below.

Net Present Cost (\$m)	Final Project Cost	DBB
Substantial Completion Payment	88.7	-
Service Payments	151.7	-
Capital Costs	-	188.3
Lifecycle and Operating Costs	-	52.0
Risk Adjustment	26.4	88.7
Procurement and Project Management	13.6	6.3
Total	280.4	335.2
Cost differential		54.8
Percentage savings		16.3%

The dollar amounts are shown diagrammatically in the figure below:



In financial terms, the final Project Agreement is estimated to achieve NPC savings of \$54.8 million of taxpayers’ dollars when compared to the alternative procurement option.

4.10 Accounting treatment

GNWT’s Office of the Comptroller General, responsible for the overall quality and integrity of the Territory’s financial management and control systems, has established accounting guidelines for partnership projects.

Based on accounting guidelines, and for accounting purposes, the nominal capital costs associated with the PPP portion of the Project will be capitalized as an asset on GNWT’s balance sheet, including the capital cost for the design and construction, the associated interest during construction, and NSI’s bid development and financing costs. It does not include costs for the competitive selection process, implementation or contingencies. These costs are accrued to GNWT through the construction period as the costs are incurred.

The total capitalized cost for the Project is \$215.33 million. \$185.6 million of the total capitalized costs are related to construction and pre-development activities and the long-term debt impact to GNWT is \$29.73 million.

5. Ongoing Project Agreement Monitoring

The Project Agreement with NSI includes specific provisions to ensure Project delivery, performance and quality standards are met. Monitoring spans every phase of the Project, from Financial Close through to design and construction, and maintenance and handback.

There are several major phases in the Project monitoring schedule, with roles and responsibilities assigned to Project participants at each stage.

5.1 Design and Construction Phase

The Project Agreement specifies monitoring mechanisms to ensure the timeliness of the Project completion and the quality of the construction:

- During design and construction, the Independent Certifier is responsible for reviewing and monitoring construction progress and quality, as well as payment certification in respect of the Design-Build Agreement. The Independent Certifier will prepare and deliver an inspection report monthly on the design and construction completed in the previous month and progress relative to the Project Schedule.
- In addition, at Substantial Completion and at total completion, the Independent Certifier issues a certificate of completion once NSI has met the design and construction requirements set out in the Project Agreement.
- NSI's lenders will also review performance during the construction period.

5.2 Operations, Maintenance and Rehabilitation ("OMR") Phase

Like the design and construction phase, the Project Agreement provides service monitoring protocols during the operations and maintenance phase through to the handback phase:

- GNWT will perform inspections and testing to check reports and ensure the requirements continue to be met.
- NSI will provide various reports to GNWT for review on communications, environment, site safety, traffic control and quality.
- NSI will provide various plans for GNWT's review and approval, such as:
 - Operation and maintenance plan
 - Customer care plan
 - Traffic management plan
 - Asset management plan
 - Rehabilitation strategy plan
 - Environmental management plan
 - Handback works plan
 - Project safety plan

- Emergency response plan to any event or series of events that impact the operability of the ASR

5.3 End of Project Agreement - Handback Phase

At the end of the 25-year Operations, Maintenance and Rehabilitation Period, the condition of the ASR must be in compliance with the handback specifications in the Project Agreement. As part of the handback process, the following monitoring activities will take place:

- GNWT and NSI will undertake several activities to assess the condition of the ASR prior to Project Agreement expiry. This assessment will ensure the asset is in the condition specified in the Project Agreement prior to handback. Financial penalties will be applied if the asset is not delivered to GNWT in the specified condition.
- The compliance with handback requirements will be assessed by an independent qualified party (the “**Independent Inspector**”), like the Independent Certifier discussed in Section 5.1.
- After the Project Agreement expires, GNWT will assume responsibility for maintaining the ASR.

5.4 Quality Management Throughout the Project Term

Quality is vital to the GNWT and the traveling public. The performance-based structure of the Service Payments creates an incentive for NSI to construct, maintain and operate the ASR to the high standards described in the Project Agreement. To ensure the performance standards and the above-mentioned structure, the Project Agreement includes a Performance Monitoring Plan. This plan is based on various types of service performance reports delivered at different time intervals (i.e., monthly, quarterly, annually, etc.) to GNWT by NSI, such as:

- Roadway status reports
- Customer satisfaction surveys
- Incident reports
- Operation, maintenance and rehabilitation monthly reports
- A calculation of the monthly Service Payments owed to NSI

The reports and underlying data produced by NSI, available to GNWT at the scheduled reporting times, allow for a thorough review of provided services and performance. The Performance Monitoring Program ensures that the ASR is operated and maintained according to the high standards stated in the Project Agreement. The Project Agreement contains strict penalties for delay in provision or misrepresentation of data in the reports.

6. Glossary of terms

ASR	All-Season Road
Competitive Neutrality	Cost adjustments made to the financial model to ensure a fair value for money analysis and comparison between the public and private sectors.
Discount Rate	A rate used to relate present and future dollars. Discount rates are expressed as a percentage and are used to reduce the value of future dollars in relation to present dollars. This equalizes varying streams of costs and benefits so that different alternatives can be compared on a like-for-like basis
Financial Close	The point in the procurement process where negotiations with a preferred proponent are finalized, the lending requirements have been fulfilled and a Project Agreement is executed, allowing construction to begin
GNWT	Government of the Northwest Territories
Independent Certifier	An independent, third-party certifier engaged jointly by GNWT and the private partner to verify and certify whether certain conditions of the Project Agreement are being satisfied
Net Present Cost (NPC)	The value of periodic future cost outlays when they are expressed in current, or present day, dollars by discounting them using the Discount Rate
Nominal Cost	Costs calculated in nominal terms at current prices recognizing adjustments for inflation
Performance Specification	Specifications developed by GNWT that define the output and performance levels required in relation to construction and life cycle performance of an asset, to ensure the completed project satisfies the objectives of a project with respect to meeting GNWT's service delivery needs
Preferred Proponent	A proponent selected from a shortlist of bidders to enter into negotiations with GNWT to reach Financial Close and deliver a project
Project	Tłı̄chǝ All-Season Road Project
Project Agreement	The Project Agreement sets out the requirements for the delivery of an asset under a PPP in terms of cost, schedule and life cycle performance that typically govern the performance-based payment of the Service Payment to a private partner
Public Private Partnership (PPP)	A project structured using a long-term, performance-based agreement with a private sector partner to deliver and maintain an infrastructure asset, including significant upfront capital investment
Request for Proposals (RFP)	Document issued by GNWT for qualified proponents to submit formal proposals to deliver a project

Request for Qualifications (RFQ)	Document issued by GNWT inviting parties interested in participating in an RFP, to submit their qualifications for delivering a project
Retained Risk	Risks associated with delivering a project that are not transferred to the private partner under a PPP, representing a cost to the project regardless of the procurement approach
Service Commencement	The date upon which the following activities have been achieved: the Independent Certifier has issued a Certificate of Service Commencement with respect to the Project; all necessary permits have been issued for the use and operation of the ASR; and Project Co has delivered to GNWT a report from the commissioning agent retained by Project Co in accordance with the Project Agreement confirming completion of all commissioning activities scheduled in the Commissioning Plan to be completed before Service Commencement
Service Payment	The mechanism by which a private partner in a PPP arrangement is compensated. According to performance standards specified in a Project Agreement, Service Payments are paid to the private partner for capital and operating costs, as well as their required rate of return, over the term of the agreement
Substantial Completion	The satisfactory completion of all project work required to permit the safe, uninterrupted and unobstructed public use of the Tłı̨ch̨o All-Season Road, as outlined in the Project Agreement
Substantial Completion Date	The date at which a private partner has satisfied all the criteria for Substantial Completion for the Tłı̨ch̨o All-Season Road, as certified by the Independent Certifier and evidenced by the Certificate of Substantial Completion
Traditional Procurement	Methods by which the public sector has traditionally procured projects in the Northwest Territories, through design bid build (DBB), design build (DB) contracts or a combination of DBB and DB contracts
Transferred Risk	Risk associated with delivering a project that is typically borne by the public sector under traditional procurement that is transferred to the private sector under a PPP
Value for Money (VFM)	Describes the benefits to the public expected to be realized through a particular procurement method, which can be quantitative and/or qualitative in nature. Quantitative value for money is achieved through the lower cost of a project resulting from the procurement method, whereas qualitative value is achieved when a particular procurement method better supports the goals and objectives of a project without necessarily costing less

Appendix A – P3 Procurement Process

In accordance with GNWT's P3 Management Framework⁹, GNWT undertook a procurement options analysis to determine an optimal procurement method for the Project.

Methodology

The evaluation of procurement options is mainly concerned with identifying the method of delivering the Project that will result in the greatest value for money on both a qualitative and financial (quantitative) basis. The evaluation of procurement options involves two main steps:

- The first step identifies key procurement objectives, against which a wide range of available procurement options are compared, including both traditional and partnership methods, and provides a qualitative assessment these options. This step is intended to identify the two procurement methods most relevant to the project, which then form the basis of detailed quantitative comparison
- The second step in the assessment involves a more detailed, quantitative analysis that compares the two methods

Multi Criteria Analysis was used to qualitatively assess a wide spectrum of potential procurement options, including Design-Bid-Build (“DBB”), Design-Build (“DB”), Design-Build-Finance (“DBF”), Design-Build-Finance-Maintain (“DBFM”) and Design-Build-Finance-Operate-Maintain (“DBFOM”), for their alignment with the goals and objectives of the Project. The Multi Criteria Analysis indicated that the DBFOM procurement option was most closely aligned with the criteria. Quantitative analysis was then undertaken to review whether DBFOM would provide Value-for-Money (“VFM”) when compared to the DBB procurement route, which had traditionally been used to procure projects of this nature by GNWT.

A VFM assessment was therefore completed to compare the life-cycle risk-adjusted costs of the two selected procurement options, DBB and DBFOM. The purpose of the VFM assessment was to identify the procurement option that would provide the greatest value through the design, construction and operations, maintenance and rehabilitation phases of the project. A financial model was developed to compare which approach generated the greatest VFM.

The VFM assessment process included a comprehensive risk analysis to identify and quantify the risks retained by the public sector under each procurement option. Other costs were also incorporated including: design, construction, operating, maintenance, and rehabilitation related costs; and transaction costs (legal, fairness, technical advisors, project management, and contract management fees). Model specific adjustments were made to ensure a fair comparison between procurement options. For example, the DBB model was adjusted to account for differences in tax treatment and insurance costs between the public and private

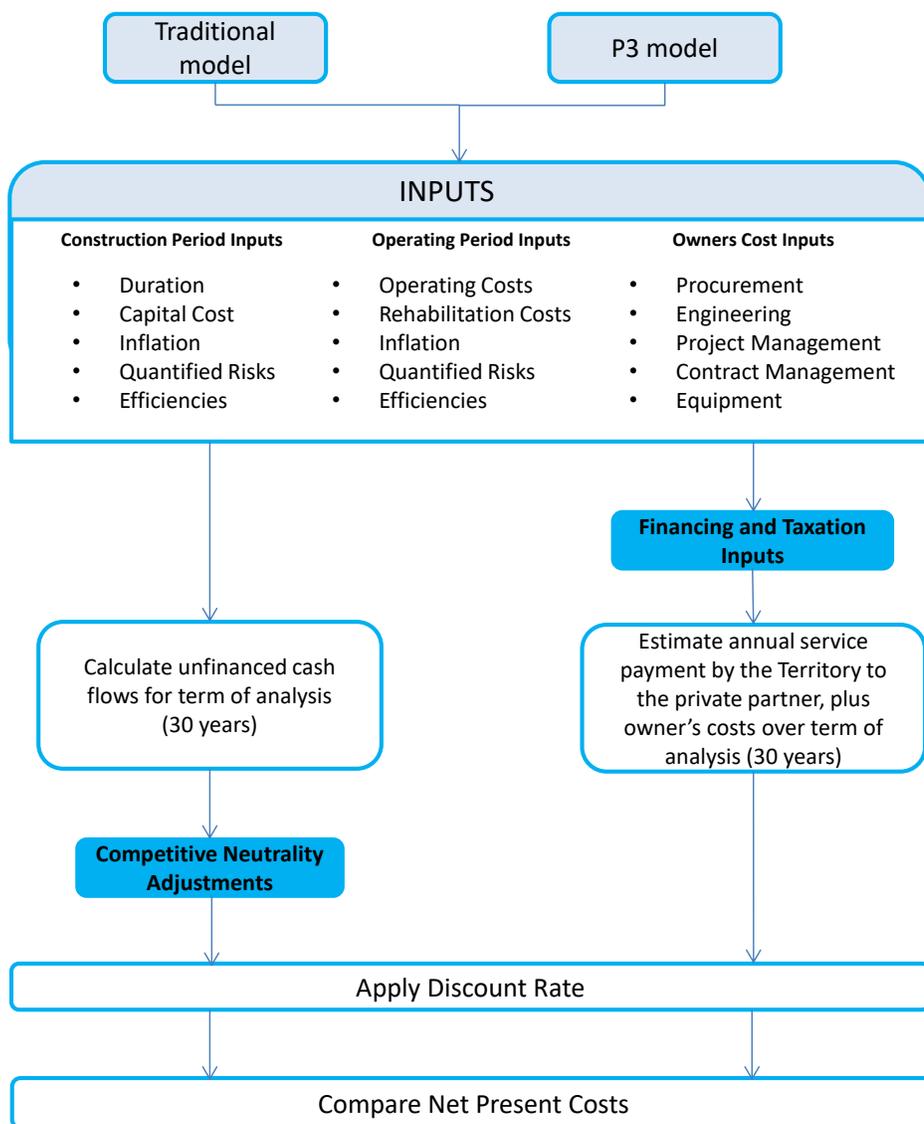
⁹ GNWT P3 Management Framework dated 11/5/2012

sectors (the “Competitive Neutrality” adjustment).

Differences in timing and cash flows between procurement options are an important consideration in the analysis of long term cash flows. To allow for these differences a discounted cash flow approach was utilized. A discount rate was applied to the projected future cash flows to allow for timing differences.

Figure 4 demonstrates the steps in the quantitative component of the procurement options analysis.

Figure 4 - Quantitative procurement options analysis steps



Procurement Options

The process of considering procurement options began with the definition of key procurement objectives, which were based on the Project objectives. The following procurement objectives were developed by the Project team to provide guidance in the selection and analysis of procurement options:

- Maximize competition (between proponents/bidders)
- Cost certainty
- Risk allocation
- Fairness, transparency, and integrity
- Value engineering and innovation
- Overall value for money

The qualitative analysis concluded that DBB and DBFOM were the two most appropriate traditional and partnership procurement options, respectively, and should be compared in detail. The two options are described below.

Design Bid Build

GNWT would issue a tender call for the design contract in the market. Once the bids or price quotes for an external design consultant are received and evaluated, the most qualified bidder would be selected as the engineering design services consultant. GNWT would then work collectively with the design services consultant to develop specifications that can be used for the construction bid.

GNWT would then issue a tender call for the construction of the road from qualified bidders based on the completed designs performed by the contracted design groups. Proponents then respond to the request and the contract is awarded to the most suitable proponent. GNWT would make monthly progress payments to the contractor during construction and would take possession and maintain and operate the infrastructure following completion.

In the past, GNWT has successfully delivered projects on time and budget using DBB.

Design Build Finance Operate Maintain

This partnership delivery model involves a two-stage competitive selection process. The first stage is an RFQ, whereby respondent teams would submit qualifications to be received and evaluated, resulting in a shortlist of Proponent teams. The second stage invites the proponent teams to submit proposals as part of the RFP process. At the RFP stage, GNWT would provide performance specifications and seek proposals from the proponents to design, build, finance, operate and maintain the ASR.

The Project team would evaluate these proposals to determine a preferred proponent with which it would enter into a final Project Agreement. Under the Project Agreement, the proponent would be required to design, build, finance, operate and maintain the Project over the specified term of the agreement.

Service payments would be made monthly to the private partner over the life of the agreement, in a fixed amount determined at Financial Close. Payments only commence once the infrastructure is completed. To ensure that the private partner receives full payment, they must meet defined and measurable performance and availability standards on a continuous basis. The DBFOM approach provides a financial structure that aligns the incentives of the private partner and GNWT. Under the DBFOM option, the private partner would be responsible for:

- Arranging Project financing, including debt and equity
- Developing and constructing the ASR in accordance with a defined output specification
- Operating and maintaining the infrastructure over the life of the Project Agreement and handing it back at the end of the contract term in the prescribed condition

Results of the Procurement Options Analysis

DBFOM method was determined to be the preferred procurement option, expected to best meet GNWT's procurement objectives and overall Project objectives.

Achieving value for money

Value-for-Money is a term that captures both the quantitative and qualitative benefits that are expected to be achieved by the decision to deliver a project using the partnership method. Quantitative value for money is achieved through the lower project cost resulting from a particular procurement method. Qualitative value is achieved when a particular procurement method is best able to support the broader objectives of a project.

Partnership projects typically provide the following qualitative benefits:

- Competition and innovation: *The competitive nature of the bidding process encourages the private partner teams to develop innovative solutions in all aspects of the project from design and construction through to operations. In addition to innovation, competition can drive value for money on the project.*
- Schedule certainty: *The private partner receives a significant portion of their payment through monthly Service Payments once the infrastructure is available for use, thereby providing a financial incentive to complete the project on time.*
- Cost certainty: *The Project Agreement is a fixed price contract.*
- Integration: *The private partner is responsible for the design and construction; operations and maintenance; and rehabilitation of the infrastructure. This creates opportunities and incentives to integrate these functions to optimize performance of the infrastructure over the duration of the Project Agreement.*
- Life cycle maintenance: *The private partner is responsible and accountable for ensuring the infrastructure is maintained and rehabilitated over the duration of the Project Agreement otherwise the Service Payments may be reduced.*