

Chapter 2

Funding for Rural Internet – Regional Development Corporation and Opportunities New Brunswick

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Funding for Rural Internet – Regional Development Corporation and Opportunities New Brunswick

Report of the Auditor General – Volume I, Chapter 2 - October 2021

Why Is This Important?

- Modern high-speed internet is an essential service and 36% (67,000) of rural New Brunswick households did not have access in 2019
- The global Covid-19 pandemic highlighted the need for modern high-speed internet due to the increasing risk of disruptions to conventional, in-person services
- The Province spent over \$39 million on funding for rural internet since 2003

Overall Conclusions

- We were unable to conclude if funding for rural internet is achieving the desired outcomes because key information we required was unavailable
- Accountability was not assigned to ensure a provincial government agency would be held responsible for funding outcomes
- ONB's contract with Xplornet deviated from the funding submission made to the provincial government
- ONB paid \$8.2 million to improve rural internet services without adequate assessment of project outcomes

What We Found

Poor Phase One Governance and Lack of Accountability

- Governance structure was not in place to manage funding for rural internet
- No specific provincial funding program for rural internet which would have established funding outcomes independent of the project
- ONB and RDC did not conduct a needs assessment to support decision to contract with Xplornet

Non-competitive Phase One Selection Process and Inadequate Contract Design

- ONB and RDC did not pursue a competitive process for selecting Xplornet
- Funding deviated from the eligibility criteria
- ONB's contract with Xplornet did not align with funding submission approved by the provincial government

Unmet Phase One Contract Deliverables

- Xplornet did not meet the deliverables under the contract at the time of our work
- RDC announced completion of phase one project without verifying outcomes
- RDC and ONB did not enforce funding contract terms

Questionable Phase One Claims Evaluation

- ONB paid \$5.1 million to Xplornet for costs that were ineligible
- ONB paid \$4.2 million "in advance" of validating contract deliverables
- ONB lacked the technical expertise to review project progress

Key Findings and Observations Table

Funding for Rural Internet – Regional Development Corporation and Opportunities New Brunswick

Paragraph	Key Findings and Observations
	Poor Phase One Governance and Lack of Accountability
2.35	<i>Province did not establish governance structures to manage phase one funding for rural internet</i>
2.37	<i>Rural Internet not mentioned in ONB's mandate letter</i>
2.41	<i>SII fund was focused on economic development and not suited to deliver outcomes specific to improving or expanding internet in rural areas</i>
2.42	<i>Wording of ONB's contract with Xplornet conflicted with the terms of RDC's funding guideline</i>
2.44	<i>Province did not carry out a needs assessment to set expectations for the outcomes of funding</i>
2.46	<i>ONB and RDC relied on Xplornet to prepare the needs assessment, define the outcomes and design the technical solution to meet the need</i>
2.49	<i>ONB did not attempt to verify technical solution design</i>
2.50	<i>Technical solution was not designed with sufficient bandwidth</i>
2.51	<i>ONB did not have enough data to properly validate Xplornet's needs assessment for rural internet</i>
	Non-competitive Phase One Selection Process and Inadequate Contract Design
2.54	<i>ONB and RDC did not pursue a competitive process for selecting Xplornet</i>
2.56	<i>ONB did not validate claims of Xplornet being the most effective service for rural internet</i>
2.57	<i>ONB did not update 2008 due diligence on whether circumstances had changed for other internet service providers to know if others could provide comparable services</i>

	Non-competitive Phase One Selection Process and Inadequate Contract Design (continued)
2.58	<i>ONB did not independently validate the 2008 rural internet milestone achievement</i>
2.60	<i>Funding deviated from the eligibility criteria</i>
2.61	<i>Approval exceeded the maximum funding on eligible costs by \$2.5 million</i>
2.64	<i>The design of ONB's contract with Xplornet did not align with the ONB/RDC funding submission and Xplornet's proposal approved by the provincial government</i>
2.66	<i>Key details omitted from the contract</i>
2.67	<i>Limits on eligible costs not established in contract</i>
2.68	<i>Cost categories such as spectrum licenses were included which had not been contemplated in the funding submission</i>
2.69	<i>Xplornet had discretion to determine its own contract deliverables</i>
2.70	<i>Eligible costs and project budget not itemized in contract</i>
2.72	<i>Qualified capital expenditure list was not part of the contract</i>
	Questionable Phase One Claims Evaluation
2.76	<i>ONB paid \$5.1 million for ineligible costs</i>
2.77	<i>ONB paid \$3.1 million in phase two costs and unapproved scope change</i>
2.82	<i>Xplornet submitted a claim with \$11 million in satellite and ground station costs from as far back as 2010</i>
2.83	<i>ONB paid \$1.2 million for costs incurred prior to signing contract</i>
2.85	<i>ONB paid certain claims in advance</i>
2.86	<i>ONB did not follow their non-repayable contributions policy</i>
2.87	<i>ONB did not verify specific terms and conditions of their contract were carried out by Xplornet before money was paid</i>
2.89	<i>ONB advanced \$4.2 million based on a verbal agreement contradicting the RDC-ONB agreement</i>
2.91	<i>ONB failed to obtain technical expertise to review project claims before funds were released</i>
	Unmet Phase One Contract Deliverables
2.94	<i>ONB's contract with Xplornet did not provide clear and specific deliverables</i>
2.96	<i>The project missed its planned completion date by over one year</i>
2.97	<i>100/10 Mbps was not available to subscribers in the upgraded service area</i>

	Unmet Phase One Contract Deliverables (continued)
2.99	<i>Service offered did not meet the promised speed and price standards</i>
2.102	<i>ONB did not evaluate if the technical solution would handle the internet traffic if 100% of “uncabled” residences were to subscribe to the service</i>
2.103	<i>ONB accepted and paid for a solution which does not meet the contract deliverable of providing access to 10,000 users</i>
2.105	<i>RDC announced completion of phase one and ONB paid \$8.2 million without verifying outcomes had been achieved</i>
2.108	<i>RDC and ONB did not enforce the terms of their respective contracts for phase one</i>
2.109	<i>Supporting records submitted with the claim did not meet the contract requirements</i>
2.110	<i>Pursuing federal funding for phase two was missed opportunity to enforce the terms of the phase one agreement</i>
2.113	<i>Neither RDC nor ONB publicly reported on the funding performance for phase one</i>
2.114	<i>Performance metrics reported were not specific to improving or expanding internet access</i>
2.115	<i>ONB and RDC were not held accountable for the outcomes related to provincial funding for rural internet</i>
	Rural Internet Funding: Phase Two
2.120	<i>Fixed wireless construction costs increased by 31% over 2017 proposal</i>
2.122	<i>Information submitted to the Federal government in a project change request was incorrect</i>
2.123	<i>Change request failed to acknowledge overall eligible costs have increased</i>
2.124	<i>Statement of work for phase two included 14 of the 15 phase one towers</i>
2.125	<i>RDC may not be able to reconcile Phase one and Phase two work</i>
2.128	<i>Phase two reporting on outcomes will be required in 2027</i>

Recommendations and Responses

Recommendation	Department's response	Target date for implementation
We recommend:		
<p>2.52 Executive Council Office ensure responsibility for government policy commitments, including funding for rural internet, be clearly assigned to specific government entities to ensure accountability and transparency for government programs and services.</p>	<p><i>The Executive Council Office has dedicated human resources responsible to provide oversight and guidance regarding commitments. This specific project being audited was approved by government and assigned to ED/ONB.</i></p> <p><i>ECO has a mandate to work with departments to ensure commitments are appropriately monitored, measured, and reported on as part of the accountability process. Departments must report monthly to central government regarding the progress of their priorities.</i></p> <p><i>Going forward, the file related to rural internet is the responsibility of Finance and Treasury Board's Office of the Chief Information Officer division.</i></p>	<p><i>Implemented</i></p>

Recommendations and Responses (continued)

Recommendation	Department's response	Target date for implementation
<p>We recommend:</p>		
<p>2.53 Executive Council Office direct the responsible department or agency to ensure:</p> <ul style="list-style-type: none"> • any future funding for rural internet is delivered via a program which identifies appropriate outcomes and performance metrics; • a needs assessment is conducted to determine the service gap before providing any future funding; and • future applications for rural internet funding be validated to ensure they address service gaps identified through a needs assessment. 	<p><i>Office of the Chief Information Officer (OCIO) in Finance and Treasury Board has identified high-level targets and continue to work with the service providers to align their work with desired outcomes. Future funding decisions will be aligned to specific outcome metrics and service gaps that are to be addressed.</i></p> <p><i>OCIO continues to liaise and support internet service providers in an effort (for internet service providers) to procure federal funding for the provision of rural broadband to rural New Brunswick homes.</i></p> <p><i>The OCIO has established a process to identify gaps in rural broadband service for households and businesses. This work is ongoing and will inform future decisions.</i></p>	<p>Ongoing</p>

Recommendations and Responses (continued)

Recommendation	Department’s response	Target date for implementation
We recommend:		
<p>2.63 Executive Council Office direct the responsible department or agency to ensure any future funding for rural internet is delivered through a competitive and transparent process by:</p> <ul style="list-style-type: none"> • issuing public tender; or • adhering to the terms and conditions of funding guidelines. 	<p><i>ECO is responsible to work with departments to ensure proposals are fully developed prior to presentation to government for approval.</i></p> <p><i>OCIO will continue to work with Strategic Procurement and ensuring the Procurement Act is adhered to.</i></p> <p><i>Government recently approved a financial assistance policy that will apply to for-profit organizations that will soon be fully implemented. Finance and Treasury Board will be responsible to provide the central financial oversight on this new policy. Organizations will be put through a rigorous process and meet criteria to be approved.</i></p>	<p><i>Implemented</i></p> <p><i>Policy will be fully implemented by September 2021.</i></p>

Recommendations and Responses (continued)

Recommendation	Department’s response	Target date for implementation
We recommend:		
<p>2.75 Regional Development Corporation and Opportunities New Brunswick ensure future contracts for funding of rural internet include details to enable proper evaluation of claims made by contractors. These should include but are not limited to:</p> <ul style="list-style-type: none"> • detailed statement of work; • project budget; and • specific and measurable outcomes. 	<p><i>ONB will ensure that it works closely with RDC on future contracts for funding of rural internet to enable proper evaluation of claims made by contractors.</i></p> <p><i>For Phase 2 of the rural internet project, RDC has a detailed statement of work, project budget, and specific and measurable outcomes.</i></p>	<p><i>At next involvement of funding for rural internet.</i></p> <p><i>Implemented</i></p>
<p>2.84 Opportunities New Brunswick clearly identify approved eligible costs in future contracts of this nature, with a maximum amount payable to avoid paying for ineligible costs.</p>	<p><i>ONB will work with RDC to ensure eligible costs in future contracts of this nature are clearly outlined and identified with maximum amounts payable clearly outlined.</i></p>	<p><i>At next contract of this nature.</i></p>
<p>2.90 Opportunities New Brunswick ensure any amendments to contract terms are authorized and documented in writing.</p>	<p><i>ONB will follow best practices in this regard and will ensure amendments are clearly authorized and documented.</i></p>	<p><i>At next opportunity.</i></p>
<p>2.93 Opportunities New Brunswick acquire the necessary expertise to review technical aspects of future claims before releasing payments to funding recipients.</p>	<p><i>Agreed. Internal or external expertise will be utilized to review and provide guidance on technical aspects before releasing payments.</i></p>	<p><i>At next claim request.</i></p>

Recommendations and Responses (continued)

Recommendation	Department's response	Target date for implementation
We recommend:		
2.104 Regional Development Corporation and Opportunities New Brunswick set and enforce expectations regarding the performance and reliability of the technical solution to handle the required number of subscribers before providing additional project funding.	<i>Agreed. This will also include utilization of internal or external technical expertise to assess.</i>	<i>At next opportunity.</i>

Recommendations and Responses (continued)

Recommendation	Department's response	Target date for implementation
We recommend:		
<p>2.107 Regional Development Corporation have a formal project completion and close out process whereby all outcomes are assessed and accounts reconciled before project completion is announced.</p>	<p><i>RDC and the federal government will complete a close out process, including an outcomes assessment and claims reconciliation as part of the regular IBA project management process.</i></p>	<p><i>Implemented</i></p>
<p>2.112 Opportunities New Brunswick and Regional Development Corporation implement procedures to:</p> <ul style="list-style-type: none"> • evaluate contract performance on a timely basis; and • monitor and enforce the terms and conditions of their funding agreements. 	<p><i>ONB & RDC will worktogether to implement procedures to evaluate & monitor contracts.</i></p>	<p><i>At next opportunity.</i></p>
<p>2.116 Opportunities New Brunswick and Regional Development Corporation define specific metrics for rural internet service and publicly report on progress to ensure accountability.</p>	<p><i>ONB & RDC will work together and with OCIO to define specific metrics for rural internet service and will coordinate proper public reporting is in place.</i></p>	<p><i>November 30, 2021</i></p>

Recommendations and Responses (continued)

Recommendation	Department's response	Target date for implementation
We recommend:		
<p>2.127 Regional Development Corporation implement a review process for rural internet upgrade phase two funding to ensure claims submitted to the Federal government are accurate and compliant with the Integrated Bilateral Agreement and no costs are claimed related to phase one work.</p>	<p><i>RDC has a robust project management process in place for Phase 2. A project manager along with a technical expert has been assigned to the project to monitor progress and evaluate the claims. The following reports are required on an ongoing basis for Phase 2:</i></p> <ul style="list-style-type: none"> • <i>Signed statement of work, monitored by GNB for progress. Updated project Gantt charts are obtained as required.</i> • <i>May and November progress reports are obtained that outline project status, budget information next steps.</i> • <i>RDC project manager and technical expert hold weekly meetings with the applicant's project manager.</i> • <i>RDC senior staff, project manager, technical expert and Office of the Chief Information Officer (OCIO) staff meet applicant's project manager monthly.</i> • <i>Meetings as required with applicant staff and federal government staff</i> • <i>Bi-annual Oversight Committee meetings with senior RDC officials, RDC project manager and technical expert with applicant's Vice-President to obtain status update, identify risks and obtain mitigation plan for the subsequent 6-month period.</i> • <i>RDC project manager and technical expert report on project progress at a weekly meeting with OCIO broadband technical group. Implementation issues are discussed and support for solutions is procured.</i> 	<p><i>Implemented</i></p>

Recommendations and Responses (continued)

Recommendation	Department's response	Target date for implementation
We recommend:		
<p>2.131 Regional Development Corporation explore options to report publicly on the progress of the internet upgrade in a more timely manner and at least annually.</p>	<p><i>The current internet upgrade project is funded by the federal government in its entirety under the Integrated Bilateral Agreement. As such, this agreement and the federal communications protocols must be strictly adhered to. RDC will discuss options for this communication with the federal government.</i></p>	<p><i>November 30, 2021</i></p>

Audit Introduction

2.1 Since 2003, the province of New Brunswick has provided funding in support of expanding internet access to its citizens. Over time, as technology has changed, the demand for more reliable internet capable of greater speeds has only increased. Recently, the need for access to internet has been increased by the global pandemic and an accelerated shift toward accessing more products and services virtually.

Why we chose this topic

2.2 We chose to audit funding for rural internet for the following reasons:

- In 2016, the Canadian Radio-television and Telecommunications Commission (CRTC) declared modern high-speed internet access is essential in rural and remote communities
- The Province spent over \$39 million on funding for rural internet since 2003
- The Province committed to spending an additional \$40 million in federal funding for rural internet in 2019
- 36% (67,000) rural New Brunswick households did not have access to modern high-speed internet in 2019
- The global pandemic in 2020 highlighted the need for households to have high-speed internet for accessing virtual services such as education and healthcare.

Audit Objective

2.3 The objective of this audit was to determine if funding for rural internet is achieving the desired outcome of providing rural New Brunswickers access to affordable high-speed internet.

Definitions

2.4 Exhibit 2.1 contains definitions of key technical terms used in this report. A more comprehensive table of technical definitions can be found in Appendix IV.

Exhibit 2.1 - Definitions of Key Terms

Definitions of Key Terms	
Term	Defined
50 megabits per second for download and 10 megabits per second for upload (50/10 Mbps)	Speed identified by the Canadian Radio-television and Telecommunications Commission (CRTC) for Canadians to take advantage of cloud-based software applications, multiple government services, online learning resources and high-definition streaming videos
Backhaul	Intermediate link between core network and wireless towers
Bandwidth	The amount of data that can be sent through a connection, usually measured in bits per second
Download/ Upload speed	The speed at which data, including pictures and video, is being delivered to you from the Internet or vice versa
Fiber	A type of cable that uses glass threads or plastic fibres to transmit data using pulses of light
Fixed wireless	A service for providing high-speed internet to a fixed location, such as a home or business. The wireless signal is typically transmitted from a tower to an antenna installed on the roof of the home or business in question
Last Mile	The connection between the broadcast tower and the customer's premises
Latency	The time it takes for data to travel from a source to a destination. A shorter latency is better
Minimum service standard	Providing a target download/upload speed when required by subscribing households up to the farthest edge of the service area, and providing a minimum service quality to all subscribing households at all times
Megabits per second (Mbps)	The most common unit of measurement for describing the speed of high-speed internet connections
Modern High-Speed Internet	Refers to internet subscriptions which meet CRTC standards for quality and speed, currently 50/10 Mbps with unlimited data.
Satellite	A microwave receiver, repeater, and regenerator in orbit above earth
Spectrum	The full range of radio waves used to transmit sound and data wirelessly
Spectrum License	The Canadian government regulates access to spectrum under the authority of Industry, Science, and Economic Development (ISED) Canada, which provides access to the radiofrequency spectrum by issuing authority for its use
"Uncabled" residences	Xplornet's determination of their target customers.

Audit Scope

2.5 We examined New Brunswick provincial funding for rural internet. Our audit also considered New Brunswick's participation in the Integrated Bilateral Agreement (IBA) with the Government of Canada. Our auditees were Regional Development Corporation (RDC) and Opportunities New Brunswick (ONB), to whom our findings and recommendations are directed. Another important party was Xplornet Communications Inc. (Xplornet), being the ultimate funding recipient. However, Xplornet was not an auditee.

2.6 Our audit covered the period between April 1, 2018 and March 31, 2020. This is the period to which our audit conclusions apply. However, to gain a more complete understanding of the subject matter of our audit, we also examined certain matters that preceded the starting date of our audit. We engaged a subject matter expert to provide advice and technical expertise in relation to highly specialized aspects of the audit. Results of the expert's work have been incorporated into this report. More details on the audit objectives, criteria, scope and approach we used can be found in Appendix I and Appendix II.

Subsequent Events

2.7 We considered the effect that events up to the date of our report would have on our work. We determined it is unlikely these events would substantially change our audit conclusions. Details of subsequent events that occurred after our audit period of March 31, 2020 can be found in Appendix III.

Conclusions

2.8 We were unable to conclude if funding for rural internet is achieving the desired outcome of providing rural New Brunswickers access to affordable high-speed internet. While we noted funding has contributed to infrastructure upgrades, key information we required to evaluate our objective was unavailable, such as:

- the location of “uncabled” residences and their distances to the nearest tower to demonstrate they are inside of the service area;
- the percentage of “uncabled” residences the technical solution was designed to serve;
- detailed project budget and planned infrastructure outcomes for phase one, which prevented us from

evaluating infrastructure outcomes achieved versus what was planned;

- details of project budget for phase two compared to the proposal and phase one costs incurred, which prevented us from evaluating the accuracy of phase two budget; and
- a final evaluation by ONB of the deliverables of their contract with Xplornet.

2.9 However, we were able to make the following conclusions related to phase one of the rural internet funding:

- accountability was not assigned to ensure a provincial government agency would be held responsible for funding outcomes;
- the funding contract with Xplornet deviated from the ONB/RDC funding submission made to the provincial government;
- the funding contract with Xplornet was not designed with metrics to ensure funding outcomes would be achieved;
- ONB paid \$8.2 million without adequate assessment of project outcomes; and
- contract deliverables, including internet speed and pricing standards, remained unmet.

2.10 Overall, it remains unclear whether investment by the Province in rural broadband projects has adequately addressed connectivity issues in rural areas as intended.



Source: Created by AGNB with pictures from ONB and government of New Brunswick image bank

Background Information

2.11 Exhibit 2.2 shows funding for rural internet by both provincial and federal governments since 2003 in support of private businesses in the form of contributions and a loan guarantee.

Exhibit 2.2 - Federal and Provincial Funding for Rural Internet 2003 - 2020
(\$ millions)

Federal and Provincial Funding for Rural Internet 2003 - 2020 (\$ millions)						
Year	Description	Target # of Households	Project Cost	GNB Contribution	Canada Contribution	Contractor Contribution
2003	Contribution for Internet	N/A	\$44.6	\$12.5 (25%)	\$16.5 (37%)	\$15.6 (35%)
2008	Contribution for 1.5 Mbps project	43,000	39.0	13.0 (33%)	0.0	26.0 (67%)
2012	Contribution for 10-25 Mbps subscription rebate	N/A	15.0	5.0 (33%)	0.0	10.0 (67%)
2015	Contribution for 5 Mbps project	N/A	0.4	0.2 (38%)	0.2 (50%)	0.1 (12%)
2015	Contribution for 10-25 Mbps project	16,000	5.8	0.0	2.9 (50%)	2.9 (50%)
2015	Contribution for 5 Mbps project	3,300	6.1	0.0	3.1 (50%)	3.1 (50%)
2015	Contribution for 5 Mbps project	N/A	1.6	0.1 (4%)	1.2 (75%)	0.3 (21%)
2018	Contribution for 100 Mbps project, phase one	20,000	30.0	10.0*	0.0	20.0**
2020	Contribution for 100 Mbps project, phase two	63,000	131.7	0.0	40.0**	91.7**
Total Contributions			\$274.2	\$40.8	\$63.9	\$169.7
2009	Loan Guarantee for 1.5 Mbps project		\$10.0	\$10.0	\$0.0	N/A
Total Contributions and Loan Guarantee			\$284.2	\$50.8	\$63.9	\$169.7

Source: Created by AGNB from unaudited ONB information

* \$8.2 million paid to-date out of \$10 million commitment

** Amounts committed as of date of approval

2.12 The Province has invested or committed over \$40 million since 2003 in improvements to or expansion of rural internet. Despite these investments, rural households continue to grapple with lack of connectivity and low speed internet services.

2.13 In 2011, the CRTC established the minimum service level expectation for internet as 5 Megabits per second (Mbps) download and 1 Mbps upload. The goal at that time was to offer all Canadians these speeds by 2015. Exhibit 2.3

shows estimates of what extent various speeds have been available to all New Brunswickers over time.

Exhibit 2.3 - Availability of Internet Speeds in New Brunswick (Excluding Satellite Internet)

Availability of Internet Speeds in New Brunswick (Excluding Satellite Internet)				
Internet service category	Calendar Year			
	2016	2017	2018	2019
At least 1.5 Mbps download	98.0%	96.0%	96.1%	96.3%
At least 5/1 Mbps download/upload	96.0%	94.3%	94.6%	94.8%
At least 50 Mbps download	83.0%	81.2%	81.1%	90.8%
50/10 Mbps download/upload and Unlimited Data	NA	81.2%	81.1%	81.2%

Source: Created by AGNB from CRTC monitoring reports

2.14 As of 2016, 96% of New Brunswickers had access to the minimum expectation of 5/1Mbps speeds. The information does not consider internet provided via satellite.

2.15 In 2016, the CRTC again set a minimum service expectation for internet access across Canada in their Telecom Regulatory Policy 2016-496. As a result, the current CRTC targets are:

- 90% of Canadian homes and businesses are expected to have access to internet speeds of at least 50 Mbps for downloads and 10 Mbps for uploads (50/10 Mbps) by the end of 2021;
- the remaining 10%, hardest to reach Canadians should receive this standard by 2030; and
- target speeds will be delivered with unlimited data.

2.16 The CRTC further declared fixed and mobile internet access services are basic telecommunications services. According to the CRTC monitoring report from 2019, 81%

of New Brunswick households had access to services at the new standard. In rural areas of New Brunswick however, only 64% of households met the standard.

2.17 In July 2016, the Atlantic Growth Strategy was launched in partnership with the Government of Canada and the Atlantic provincial governments. The strategy included an infrastructure component which recognized the importance of providing internet to citizens and businesses. A leadership committee of federal ministers and the four Atlantic premiers was established to oversee the implementation of the strategy.

2.18 In April 2017, the Atlantic Growth Advisory Committee was formed to support the leadership committee and provide recommendations. Recommendations of the advisory group were published in February 2018. The first recommendation was to: “Create and implement an Atlantic . . . [Internet] Action Plan with the objective of providing all Atlantic Canadians with access to Internet service of at least 50 . . . [Mbps] down-loading and 10 . . . [Mbps] up-loading.”

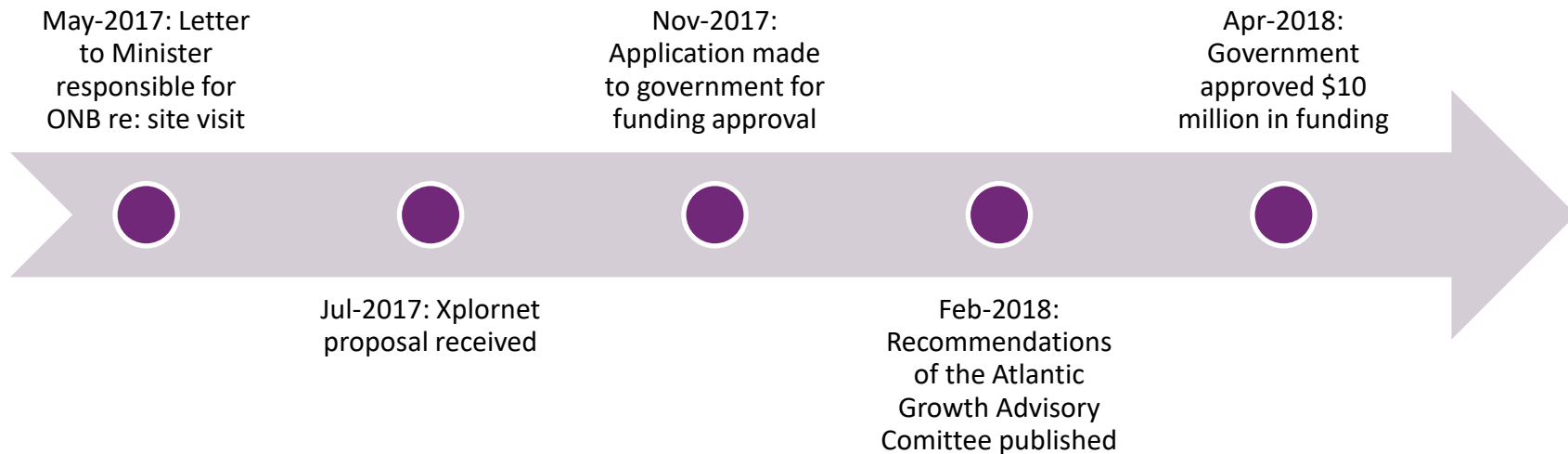
2.19 The advisory committee went on to recommend the internet action plan include the following components:

- set a benchmark to exceed the CRTC estimate of 90% access to the 50/10 Mbps standard by 2021;
- provide a needs assessment to meet the 50/10 Mbps objective; and
- include a timeline of interim targets and a commitment to publish, at least annually, the state of progress.

2.20 ONB and RDC brought a submission for funding to government in 2017 to help close the rural service gap. The Atlantic Growth Advisory Committee recommendations were not featured in the submission; however, the submission did acknowledge that the project plan should align with CRTC targets. Exhibit 2.4 shows the timeline of events surrounding the application process leading to the approval of funding for the rural broadband project in 2018. We provide a description of each event in the paragraphs that follow.

Exhibit 2.4 - Timeline of Events Surrounding Application for Funding for Rural Broadband Upgrade Project

Timeline of Events Surrounding Application for Funding for Rural Broadband Upgrade Project



Source: Created by AGNB

2.21 In May 2017, a letter to the then minister responsible for ONB from Xplornet thanked them for their interest and for their site visit. The letter mentioned the Province had been working with Xplornet since 2016 to develop an infrastructure project to improve access to internet.

2.22 In July 2017, Xplornet submitted a proposal to ONB to improve download speeds. The intent of the proposal was to build upon the project from 2008 where the provincial government invested in infrastructure to provide at least 1.5 Mbps download speeds to households throughout New Brunswick.

2.23 In April 2018, the provincial government approved funding to provide rural homes and businesses with access to high speed internet services. Exhibit 2.5 shows the anticipated project cost and sources of funds.

Exhibit 2.5 - Anticipated Project Cost and Sources of Funds, 2018 (millions)

Anticipated Project Cost and Sources of Funds, 2018 (millions)

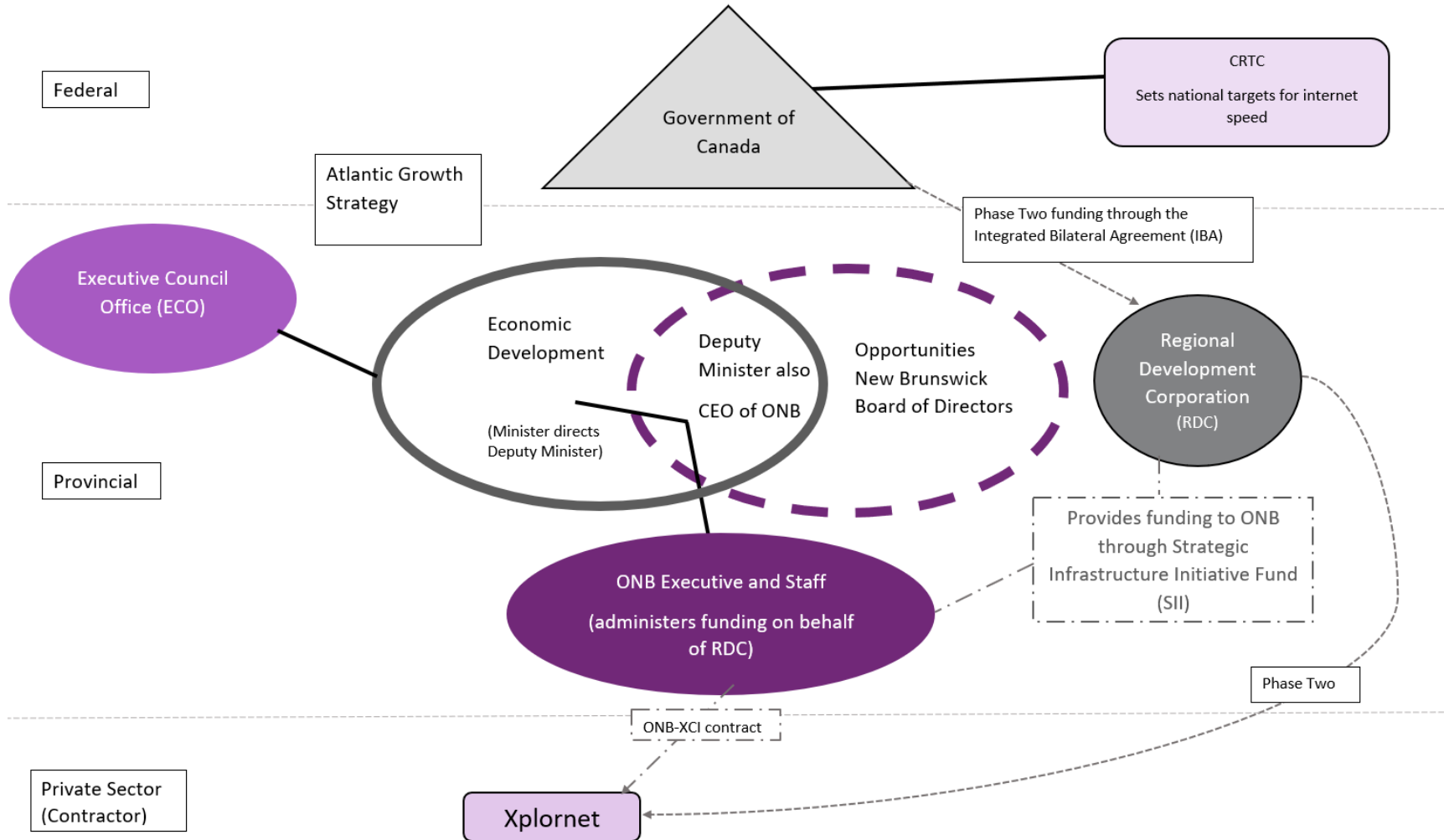
Project phase	Source of funding			
	Federal	Provincial	Private	Total
Phase one 2018-2019	\$0	\$10	\$20	\$30
Phase two 2020-2023	40	0	80	\$120
Total	\$40	\$10	\$100	\$150

Source: Created by AGNB with information from ONB

Phase one

2.24 The funding submission was made jointly by RDC and ONB and Xplornet's proposal was the basis of that application. A \$10 million contribution was approved for phase one of a two phase project with a total estimated project cost of \$150 million. A conditional approval was made at that time for a second phase where government contribution would be a combination of provincial and federal funds. Since then, the federal government has committed \$40 million to the project. Exhibit 2.6 provides an overview of key players and relationships for Phases one and two.

Exhibit 2.6 - Key Players and Relationships for Phases One and Two



Source: Created by AGNB

2.25 In our report, we highlight issues related to poor governance and lack of accountability for funding for rural internet. We noted funding for rural internet was not within ONB's corporate mandate or under the purview of its board of directors. This may have been possible through a dual role held by the Chief Executive Officer (CEO) of ONB, who is also Deputy Minister of Economic Development.

2.26 We believe the CEO of ONB acted in their capacity as Deputy Minister of Economic Development when they directed ONB staff to prepare and submit the application for funding. We observed expansion of rural internet was a platform commitment of the elected government in 2014. According to Executive Council Office, Economic Development was assigned responsibility for this commitment.

2.27 The funding for phase one was provided according to a signed contract between ONB and Xplornet and with approval by RDC and the provincial government for use of funding from the Strategic Infrastructure Initiative (SII).

Phase two

2.28 Phase two of the rural internet project will be funded by the federal government through the Integrated Bilateral Agreement (IBA). Under the IBA, New Brunswick is obligated to enter into an agreement with the ultimate recipient of the federal funding, Xplornet. New Brunswick acknowledges, as part of the IBA, the federal government is not responsible for ineligible expenditures, project cost overruns or costs incurred prior to the signing of the agreement. The federal government approved phase two on May 20, 2020.

2.29 New Brunswick has several obligations related to reporting to the federal government under the IBA, including:

- eligible expenditures must be submitted by April 20 each fiscal year; and
- project progress reports no later than May 31 and November 30 each fiscal year.

2.30 Under the IBA, the Province is responsible for identifying and prioritizing eligible projects and submitting them for approval. The Province must also ensure contracts

are awarded in a way that is fair, transparent, competitive and consistent with value-for-money principles.

2.31 The Province is also responsible for submitting claims covering eligible expenditures and ensuring eligible expenditures have been incurred in accordance with the IBA. At the time of our work, no claims had yet been submitted for phase two.

Technology explanation

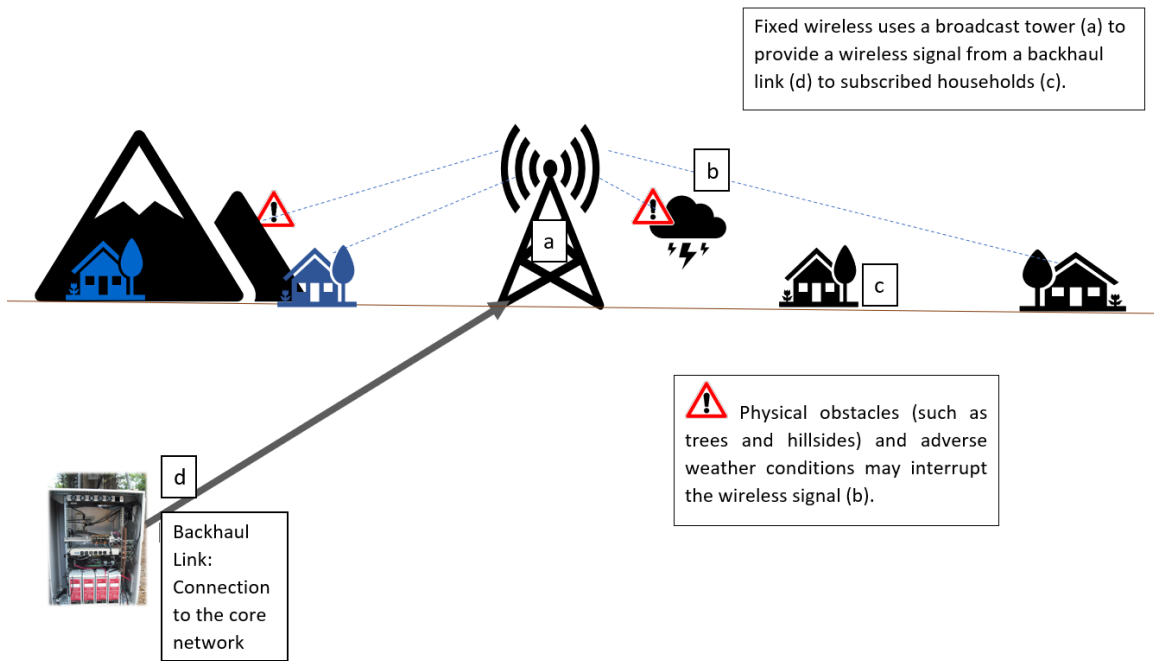
2.32 Xplornet's proposal primarily uses Fixed Wireless along with limited use of Satellite technologies to deliver high speed internet to rural areas. Exhibit 2.7 illustrates the arrangement of fixed wireless technology. A backhaul link, typically fiber cable in Xplornet's proposal, carries internet signal from the core network to a wireless tower. The signal is then sent wirelessly to subscriber households. A more detailed explanation of the technology involved has been included in Appendix V.

Jurisdictional information

2.33 We provide more detail on other Canadian jurisdictions' approaches to delivering funding for rural internet in Appendix VI. In Nova Scotia, we noted a trust fund was established and a dedicated Crown Corporation created: Develop Nova Scotia. Develop Nova Scotia invested in consultation to establish the service gap and identify the scope of requirements to meet internet objectives. Based on this consultation, Develop Nova Scotia developed a strategy for meeting the province's internet needs.

Exhibit 2.7 - Fixed Wireless Service Explained

Fixed Wireless Service Explained



Source: Created by AGNB

New Brunswick led Atlantic Canada in availability of modern high-speed internet in 2019

2.34 Exhibit 2.8 shows internet download speed availability across Canada. New Brunswick led Atlantic Canada in availability of modern high-speed internet in 2019. However, New Brunswick has below average availability with respect to each speed category except for Gigabit downloads. In this category, New Brunswick ranked second in Canada, only behind Ontario.

Exhibit 2.8 - Download Speeds Across Canada as of December 2019

Download Speeds Across Canada as of December 2019

Jurisdiction	Percentage of population with access by service level						
	1.5 Mbps +	5 Mbps +	25 Mbps +	50 Mbps +	50/10 Mbps and Unlimited Data	100 Mbps +	Gigabit
British Columbia	98.7%	98.3%	96.4%	94.1%	93.5%	93.5%	57.7%
Alberta	99.7%	99.7%	98.6%	94.7%	87.8%	83.6%	33.5%
Saskatchewan	97.4%	97.3%	90.3%	83.3%	71.1%	57.6%	0.0%
Manitoba	99.3%	98.2%	95.6%	94.2%	73.0%	72.8%	12.1%
Ontario	99.1%	98.6%	95.8%	91.8%	87.7%	86.8%	83.1%
Quebec	98.9%	98.4%	95.8%	94.1%	91.8%	90.5%	54.2%
New Brunswick	96.3%	94.8%	92.1%	90.8%	81.2%	81.1%	81.1%
Nova Scotia	99.3%	93.9%	79.2%	79.2%	78.4%	78.4%	75.9%
Prince Edward Island	99.1%	95.1%	90.0%	86.2%	61.3%	61.3%	59.3%
Newfoundland and Labrador	92.8%	91.1%	82.6%	82.4%	73.9%	73.6%	68.8%
Yukon	94.2%	93.2%	60.8%	60.8%	0.0%	60.8%	0.0%
Northwest Territories	97.8%	97.4%	61.8%	61.8%	0.0%	53.7%	0.0%
Nunavut	99.7%	99.6%	0.0%	0.0%	0.0%	0.0%	0.0%
Canada (National Average)	98.8%	98.2%	95.0%	92.1%	87.4%	86.0%	61.1%

Source: Innovation, Science and Economic Development Canada and Canadian Radio-television and Telecommunications Commission data

Poor Phase One Governance and Lack of Accountability

Province did not establish governance structures to manage phase one funding for rural internet

2.35 We found the Province did not establish appropriate governance structures with clear accountabilities for phase one funding for rural internet. Neither ONB nor RDC was explicitly assigned a mandate to offer programs leading to the expansion of rural internet. As signatory on the contract with Xplornet, we expected this responsibility would lie with ONB.

2.36 We noted ONB did not include funding for rural internet in its strategy, corporate plans and annual reports. We could not identify where rural internet would fit within ONB's performance metrics other than to the extent the funding led to job creation or return on investment for the Province. These are financial assistance outcomes and not related to providing a critical service, such as rural internet, to citizens.

Rural Internet not mentioned in ONB's mandate letter

2.37 The structure of a Crown corporation, under the governance of its board of directors, creates separation from provincial ministers and allows them to operate independently. To this end, we expected annual mandate letters, addressed to ONB's board chairperson and sent by the minister responsible for ONB, would have assigned responsibility for funding for rural internet and ensured its inclusion by the CEO in corporate strategy and plans. We reviewed ONB's mandate letters and found no mention of rural internet.

2.38 Without an explicit mandate for improving and expanding internet access in rural areas, ONB executive leadership was not accountable to the corporation's board of directors for achieving the intended outcomes of the funding. This lack of board involvement in turn eroded the accountability framework and transparency of funding for rural internet.

2.39 We found there was no provincial program for rural internet which would have established funding outcomes independent of the current project. We expected the Province would have developed a program specific to improving rural internet which would articulate funding

objectives and establish expected outcomes by which to evaluate the results.

2.40 RDC awarded ONB funding for the rural internet project through RDC’s Strategic Infrastructure Initiative (SII) fund and under an RDC-ONB agreement. In the stated objective for the SII fund, the purpose is to invest in economic assets that lead to economic activity across New Brunswick by:

- supporting strategic economic development projects;
- supporting new infrastructure that will create opportunities to grow the economy; and
- providing leveraged and strategic funding to address the accumulated infrastructure deficits.

SII fund was focused on economic development and not suited to deliver outcomes specific to improving or expanding internet in rural areas

2.41 Internet projects were within the scope of the SII fund. However, given the above stated objectives, it is clear the SII fund was focused on economic development and not suited to deliver outcomes specific to improving or expanding internet in rural areas. Without a program developed specifically for the expansion of rural internet, it will be difficult to evaluate whether the Province is delivering on its commitment to expand internet access in rural New Brunswick.

Wording of ONB’s contract with Xplornet conflicted with the terms of RDC’s funding guideline

2.42 The wording of ONB’s contract with Xplornet conflicted with RDC’s SII fund guideline. ONB indicated to us that, as the funding was provided through RDC’s SII fund, they were providing a claims administration service and were not responsible for funding outcomes. The contract stated: “Please note that ONB will be coordinating the Assistance [funding] on behalf of . . . [RDC] with funds from the Strategic Infrastructure Initiative Fund.”¹

2.43 By contrast, RDC’s SII fund guideline states, as part of eligibility criteria: “all initiatives must be supported by a provincial department or agency.”² While the SII fund guideline does include internet projects within its scope, RDC indicated to us a representative agency would have

¹ S. Lund, letter of offer to funding recipient, June 29, 2018

² Regional Development Corporation Strategic Infrastructure Initiative, April 2015

responsibility for outcomes of any project receiving funding under this initiative. The application for funding failed to meet this eligibility criterion.

Province did not carry out a needs assessment to set expectations for the outcomes of funding

2.44 We found the Province did not carry out a needs assessment independent of funding applicants to determine expectations for the outcomes of funding provided. A needs assessment would define the internet service gaps in rural New Brunswick and establish the requirements for achieving the desired service outcomes.

2.45 The Province provided this funding without undertaking an independent assessment of what is required to meet the needs of rural New Brunswickers. Without a needs assessment, the Province did not have clear expectations against which to evaluate the outcomes of funding.

ONB and RDC relied on Xplornet to prepare the needs assessment, define the outcomes and design the technical solution to meet the need

2.46 We found ONB and RDC relied on Xplornet to prepare the needs assessment, define the outcomes and design the technical solution to meet the need. Although we expected a needs assessment would be performed independent of the rural internet project, the SII fund guideline did require applications be accompanied by a needs assessment and comprehensive business case. These were submitted by Xplornet within a project proposal. By allowing Xplornet to prepare the needs assessment, there was a risk it would be tailored to meet their corporate strategy and goals, rather than the specific needs of rural New Brunswickers

2.47 Xplornet's proposal identified "uncabled" residences in the province. Per the proposal, "uncabled" residences were a metric used by Xplornet to determine their target customers. Total "uncabled" residences in the province were said to be 83,000.

2.48 The proposed infrastructure outcomes aimed to make available internet download speeds of up to 100 Mbps to 73,000 residences and 4,700 businesses via fixed wireless. Download speeds of up to 25 Mbps would be available to the remaining 10,000 residences and 600 businesses via satellite.

ONB did not attempt to verify technical solution design

2.49 We expected RDC and ONB would verify the completeness and accuracy of the proposal documents submitted by Xplornet. This did not happen. Instead, RDC and ONB relied on Xplornet for each of the needs assessment, anticipated outcomes and the design of the

technical solution. In our view, ONB and RDC failed to ensure these were designed to meet the needs of rural New Brunswickers.

Technical solution was not designed with sufficient bandwidth

2.50 The technical solution was not designed with sufficient bandwidth to allow for 100% participation of all 73,000 residences. We noted the proposal included a business plan which identified Xplornet’s expectation of a 40% market penetration. The business plan forecasted 33,393 subscribers would sign up for fixed wireless and satellite internet during the five-year span of the project. Further explanation of our analysis can be found in Appendix V.

ONB did not have enough data to properly validate Xplornet’s needs assessment for rural internet

2.51 We requested details of the 83,000 “uncabled” residences, including proximities to towers to demonstrate that those residences are within the service area. ONB could not provide this information. In our view, it would not have been possible for ONB to evaluate the completeness and accuracy of the “uncabled” residences without more precise data. ONB could not evaluate what extent the “uncabled” residences would be served by fixed wireless versus satellite or whether the proposed solution was adequate to meet the needs of rural New Brunswickers.

Recommendations

2.52 We recommend Executive Council Office ensure responsibility for government policy commitments, including funding for rural internet, be clearly assigned to specific government entities to ensure accountability and transparency for government programs and services.

2.53 We recommend Executive Council Office direct the responsible department or agency to ensure:

- any future funding for rural internet is delivered via a program which identifies appropriate outcomes and performance metrics;
- a needs assessment is conducted to determine the service gap before providing any future funding; and
- future applications for rural internet funding be validated to ensure they address service gaps identified through a needs assessment.

Non-competitive Phase One Selection Process and Inadequate Contract Design

ONB and RDC did not pursue a competitive process for selecting Xplornet

2.54 We found ONB and RDC did not pursue a competitive process for selecting Xplornet to deliver rural internet services. We expected ONB and RDC’s funding recipient selection process to be objective and consider all other service providers who might potentially make an application for funding. ONB and RDC followed an informal process with Xplornet.

2.55 In October 2017, ONB requested approval for a sole source procurement as opposed to issuing a public tender. This request followed the receipt of a letter from Xplornet, which stated: “We believe this proposal, in which we have worked together with the Province since last year, is clearly unique and cannot be replicated at a comparable scope or value by any other provider through a publicly tendered process.”³ ONB’s reasons for the sole sourcing matched the letter from Xplornet. ONB did not verify no other potential funding applicant would have proposed similar solutions.

ONB did not validate claims of Xplornet being the most effective service for rural internet

2.56 The ONB/RDC submission for funding approval included rationale for not pursuing a transparent and competitive public tender. The ONB/RDC funding submission stated Xplornet was “the only known provider that can cost-effectively provide broadband internet to all of rural New Brunswick because it balances the use of two technologies that are the most effective for delivery of broadband internet to rural residents.”⁴ However, we found no evidence of an analysis or comparison to support this claim. Further, neither the submission for funding nor the approval documents explained the shift from a procurement to using the SII fund. ONB did not provide satisfactory explanation of how or why this transition was made.

³ Funding recipient, personal correspondence, September 13, 2017

⁴ Memorandum to the Executive Council 17 November 2017

ONB did not update 2008 due diligence on whether circumstances had changed for other internet service providers to know if others could provide comparable services

2.57 In 2008, a tender was issued, for a similar rural internet upgrade project, which received five submission responses. The funding was awarded to Xplornet at that time. The 2017 application was presented as an upgrade or continuation of that work, however, ONB did not conduct due diligence to ascertain whether circumstances had changed for other internet service providers in the ten-year span. Without such analysis, ONB could not have known whether other potential proponents could meet the funding requirements or offer comparable solutions to that of Xplornet. By contrast, we noted other Atlantic Provinces considered multiple service providers. For example, Nova Scotia pre-qualified 15 service providers for participation in their rural internet funding program.

ONB did not independently validate the 2008 rural internet milestone achievement

2.58 While the ONB/RDC submission for funding approval referred to the success of the 2008 project and highlighted milestones achieved, we found no evidence of independent evaluation reports to validate that prior milestones had been achieved.

2.59 In July 2018, RDC submitted a letter of offer to ONB to fund \$10 million in contributions from the SII fund pursuant to the provincial government's funding approval. This letter became the RDC-ONB agreement in relation to the funding. We found RDC failed to design this RDC-ONB agreement in consideration of the SII fund guideline. We expected SII projects should follow the eligibility criteria as the funding guideline did not provide a mechanism for allowing exceptions. In our view, adhering to the funding guideline would help ensure the selection process for funding recipients is competitive and transparent such that any eligible vendor would have equal opportunity to participate in funding for rural internet.

Funding deviated from the eligibility criteria

2.60 We noted the Xplornet contract deviated from the following SII fund eligibility criteria:

- maximum funding on eligible costs for for-profit corporations to be 25%; and
- type of assistance to be conditionally forgivable loan.

Approval exceeded the maximum funding on eligible costs by \$2.5 million

2.61 In the April 2018 provincial government funding approval, \$10 million in non-repayable contributions was provided for the first phase of the rural internet upgrade, representing 33% of project costs totalling \$30 million. The SII fund imposed a contribution limit of 25%. This deviation increased the provincial contribution by \$2.5 million. Additionally, the SII fund specified the funding be provided via a conditionally forgivable loan where forgiveness would be based on tax revenue from construction and incremental annual economic activity. Non-repayable contributions would only be available where required by federal funding partners.

2.62 We believe, due to the above noted deviations, other potential vendors would not have known funding was available in the form of non-repayable contributions at a rate of 33% eligible costs.

Recommendation

2.63 We recommend Executive Council Office direct the responsible department or agency to ensure any future funding for rural internet is delivered through a competitive and transparent process by:

- issuing public tenders; or
- adhering to the terms and conditions of funding guidelines.

The design of ONB's contract with Xplornet did not align with the ONB/RDC funding submission and Xplornet's proposal approved by the provincial government

2.64 We found the design of ONB's contract with Xplornet did not align with Xplornet's proposal and the funding submission which was approved by provincial government. We expected the contract would follow the RDC-ONB agreement and align with the funding submission, proposal and SII guidelines. We reviewed these documents to determine whether the contract deviated from what was proposed to and approved by the provincial government. Exhibit 2.9 illustrates deficiencies we noted in the design of the ONB-Xplornet contract.

Exhibit 2.9 - ONB-Xplornet Contract Design Deficiencies Identified

We expected the contract would:	
Be aligned with approved funding submission and Xplornet proposal	✗
Be aligned with SII fund guideline criteria	✗
Limit the timing of payments relative to the completion and acceptance of deliverables	✗
Include an overall project budget	✗
Identify eligible costs and their budget amounts	✗
Identify specific and verifiable project outcomes	✗
Identify a project schedule and detailed statement of work	✗

Source: Created by AGNB

2.65 In our review, we noted a lack of information surrounding the negotiation of the contract. ONB could not explain why or how the contract was drafted in a manner that deviated significantly from Xplornet's proposal and funding submission approved by the provincial government.

Key details omitted from the contract

2.66 We compared the 2018 Xplornet contract with the 2008 contract and found key elements which were omitted from the 2018 contract. The 2008 contract constrained the timing of payments to specific increments related to the completion of tower upgrades. This feature would have

ensured the tower upgrades were tested and accepted by ONB prior to payments being made. Additionally, there was a detailed list of communities intended to be served by the upgraded towers and a more detailed project plan with statement of work and infrastructure outcomes. These omitted elements would have improved ONB's ability to evaluate claims and ensure funding was specific to the scope of the contract.

Limits on eligible costs not established in contract

2.67 We noted a draft letter of offer from ONB to Xplornet was provided with the 2017 funding submission. The draft letter included an approved eligible cost amount for the project, which capped eligible costs at \$88.9 million for both phases combined. An approved eligible cost amount, however, was not included in the final contract for phase one.

Cost categories such as spectrum licenses were included which had not been contemplated in the funding submission

2.68 The contract did provide a descriptive list of project cost categories. However, there was no limitation or expectations related to the dollar amount for each category. We observed this descriptive list was identical to the 2008 funding agreement and had not been tailored to the scope of the proposed project. As a result, cost categories such as spectrum licenses were included which had not been contemplated in the ONB/RDC funding submission approved by the provincial government.

Xplornet had discretion to determine its own contract deliverables

2.69 The 2018 contract did not identify specific and verifiable infrastructure outcomes, nor did it provide a detailed budget which would allow ONB to confirm the contract deliverables had been met. Instead, the requirements were left at the discretion of the contractor, stating the contract would deliver: “the purchase and activation of the networks strands determined by Xplornet to be required for phase one of the project.”⁵

Eligible costs and project budget not itemized in contract

2.70 The contract defined eligible costs as direct capital costs and network capacity costs incurred for the design, implementation, and completion of the project. However, details of these eligible costs are not part of the contract. We noted the contract referred to a confidential preliminary

⁵ ONB-Xplornet Funding Contract (letter of offer)

budget; however, ONB informed us there was no budget at the onset of the project.

2.71 In the absence of a budget, we attempted to identify the intended eligible project costs from the original ONB/RDC funding submission made in November 2017. Exhibit 2.10 provides a breakdown of the \$88.9 million eligible costs identified over the five-year period.

Exhibit 2.10 - Eligible Capital Expenditure Identified by RDC and ONB in the Funding Submission (\$ millions)

Eligible Capital Expenditure Identified by RDC and ONB in the Funding Submission (\$ millions)					
Capital Items	Fiscal Year				
	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Fibre Construction	\$14.8	\$14.4	\$4.0	\$2.0	\$2.0
Fibre Core – F6	5.7	0.2	0.2	0.2	0.2
Fixed Wireless Site Construction	12.6	10.4	0.3	0.0	0.0
Satellite Capacity & Gateway	3.5	0.0	0.0	0.0	0.0
Customer Premise Equipment & Installations	3.8	4.9	3.7	2.9	3.1
Annual Total	\$40.4	\$29.9	\$8.2	\$5.1	\$5.3
Accumulated Total	\$40.4	\$70.3	\$78.5	\$83.6	\$88.9

Source: Created by AGNB from unaudited information received from ONB

Qualified capital expenditure list was not part of the contract

2.72 The five-year period was intended to span the entire project, which was subsequently split into two phases. We found this list of qualified capital expenditures was not part of the 2018 Xplornet contract and, consequently, was not considered in the evaluation of claims. Exhibit 2.11 shows total claim amounts by cost category submitted to and paid by ONB.

Exhibit 2.11 - Claims Submitted to and Paid by ONB (\$ millions)

Claims Submitted to and Paid by ONB (\$ millions)				
Cost category	Claims amount	GNB Share @ 33%	10% Holdback	Actual paid
Satellite capacity and gateway investment	3.3	1.1	0.1	1.0
Satellite support to maintain ground stations	0.8	0.3	0.0	0.2
600 MHz Spectrum licences	10.1	3.4	0.3	3.0
Fibre Purchase	10.0	3.3	0.3	3.0
Construction and /or upgrade of macro and micro sites with 100 Mbps capability	3.2	1.1	0.1	1.0
Total (rounded)	\$27.4	\$9.1	\$0.9	\$8.2

Source: Created by AGNB from unaudited ONB data

2.73 At the time of our work, ONB approved contributions against costs at a rate of 33%, totalling \$9.1 million. As per the contract, ONB withheld 10% of claims payments as security against the final evaluation of deliverables under the contract. As a result, \$8.2 million was paid to Xplornet.

2.74 Due to weaknesses in the design of the contract such as no specific and verifiable infrastructure outcomes or detailed project budget, it would have been difficult for ONB to ensure claims were approved in accordance with their agreement with RDC, the funding submission and the SII fund guideline.

Recommendation

2.75 We recommend Regional Development Corporation and Opportunities New Brunswick ensure future contracts for funding of rural internet include details to enable proper evaluation of claims made by contractors. These should include but are not limited to:

- detailed statement of work;
- project budget; and
- specific and measurable outcomes.

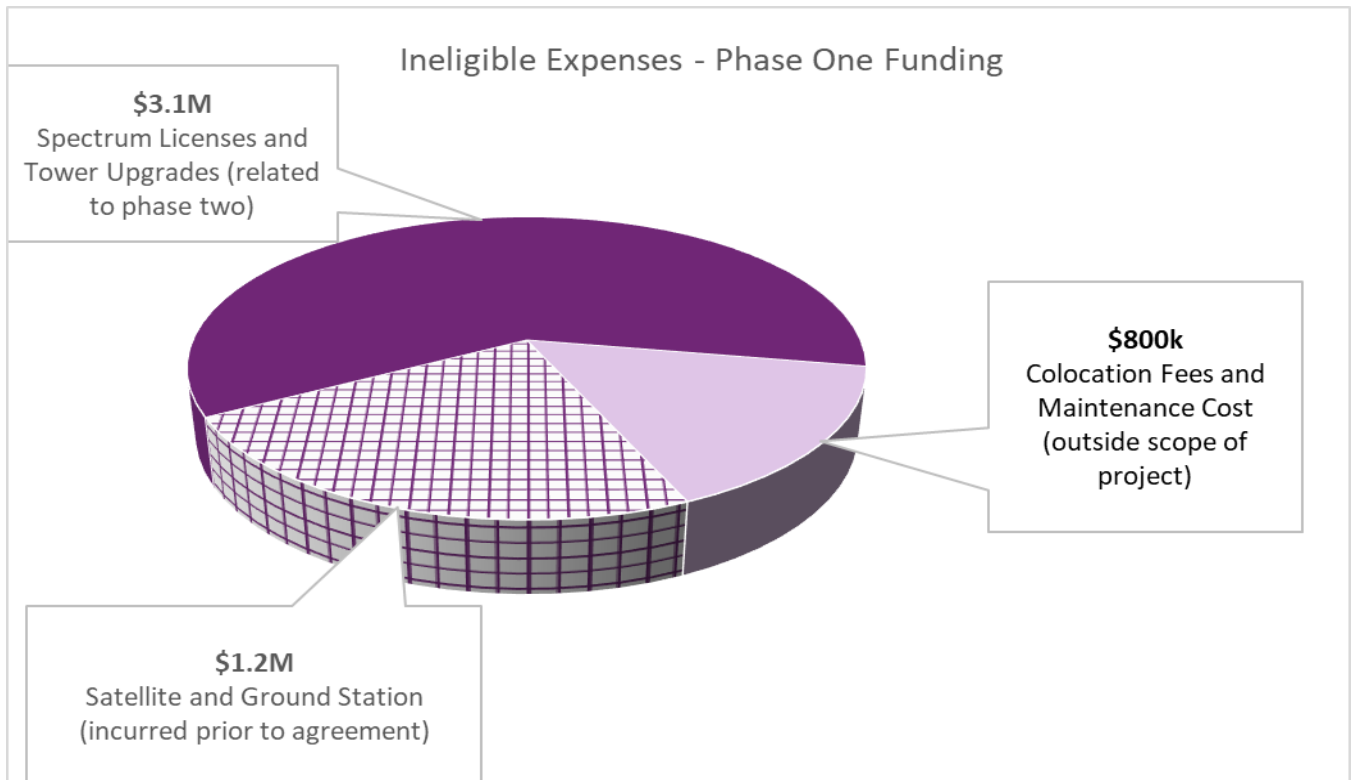
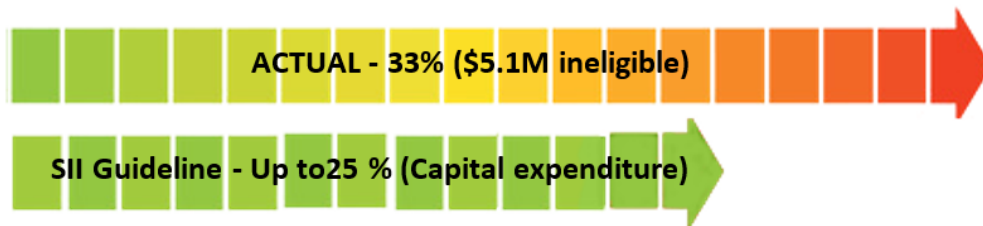
Questionable Phase One Claims Evaluation

ONB paid \$5.1 million for ineligible costs

2.76 We found ONB paid \$5.1 million for costs ineligible under the contract, including maintenance and spectrum licenses. We evaluated the claims review process to determine if claims met the criteria for approval. Payments were made contrary to their contract, SII guidelines and the list of qualified capital expenditures. Exhibit 2.12 illustrates the ineligible expense categories.

Exhibit 2.12 - Ineligible Costs and SII Fund Guideline

Ineligible costs and SII fund Guideline



Source: Created by AGNB

ONB paid \$3.1 million in phase two costs and unapproved scope change

2.77 The combination of paying ineligible costs and exceeding the maximum contribution rate increased the cost to tax payers. We found ONB allowed a significant change in project scope without obtaining the required approval from RDC. We noted \$3 million was paid in relation to a \$10 million acquisition of spectrum licenses by Xplornet. The RDC-ONB agreement explicitly states scope changes must be approved by RDC. We found no such approval on record.

2.78 Xplornet stated the initial contract deliverables would remain the same; however, with a reduction of wireless towers to be upgraded as a result of the acquisition of the additional spectrum. With this change, some potential subscribers will now be positioned further from an available tower. It is unclear whether these subscribers will experience an improvement in the service versus what was originally proposed. We discuss this further in Appendix V.

2.79 Further, the contract stated no phase two costs were to be incurred in phase one. We determined the spectrum licenses purchased were not utilized in the technical solution implemented during phase one.

2.80 Similarly, in our review of claims related to tower construction or upgrades, we identified payments of \$100,000 for at least 35 towers not related to phase one.

2.81 We also identified \$800,000 paid in relation to colocation fees and maintenance costs. Colocation and maintenance costs, which are operational expenses, were not identified as eligible costs in the contract nor as qualified eligible expenditures in the funding submission. The April 2018 provincial funding approval stated funding was meant to be provided in support of capital expenditures.

Xplornet submitted a claim with \$11 million in satellite and ground station costs from as far back as 2010

2.82 Xplornet submitted a claim with \$11 million in satellite and ground station costs from as far back as 2010, despite having included a budget of \$3.5 million in the funding submission. ONB disputed this claim. Through discussion with Xplornet, ONB compromised and agreed to consider satellite and ground station costs only from January 2017 forward, totaling \$4.1 million.

ONB paid \$1.2 million for costs incurred prior to signing contract

2.83 We noted ONB’s portion of satellite and ground station costs was \$1.2 million, paid in relation to costs incurred prior to the signing of the contract. Both the RDC-ONB agreement and the ONB-Xplornet contract stated any costs incurred prior to May 1, 2018 are not considered eligible expenses, except in the case of satellite capacity costs incurred in respect of satellite service deployment. Per the SII fund guidelines, however, costs incurred before the signing an agreement are ineligible. The exception for satellite costs did not provide a cut-off date from which satellite costs could be submitted. We could not determine if satellite costs incurred were relevant to the current project.

Recommendation

2.84 We recommend Opportunities New Brunswick clearly identify approved eligible costs in future contracts of this nature, with a maximum amount payable to avoid paying for ineligible costs.

ONB paid certain claims in advance

2.85 We found ONB paid certain claims in advance. Both the RDC-ONB agreement and the ONB-Xplornet contract required funds be provided as contributions, defined as “conditional transfer whereby specific terms and conditions must be met or carried out by a recipient before costs are reimbursed.”⁶

ONB did not follow their non-repayable contributions policy

2.86 ONB has a policy related to the provision of non-repayable contributions, which states contributions for capital are usually provided upon project completion. As such, we expected ONB would require Xplornet to demonstrate terms and conditions of the contract were met before releasing funds. However, ONB told us this policy was not followed for the ONB-Xplornet contract.

ONB did not verify specific terms and conditions of their contract were carried out by Xplornet before money was paid

2.87 In reviewing prior contracts, we noted the 2008 funding required Xplornet to demonstrate contract deliverables were met before funds were incrementally released. We observed no such requirement existed in the 2018 contract. ONB did not verify specific terms and conditions of their contract were carried out by Xplornet before money was paid. The ONB-Xplornet contract allowed incremental payments to be made based solely on Xplornet submitting claims for

⁶ The Treasury Board of Canada Secretariat: *Guide on Grants, Contributions and Other Transfer Payments*

costs incurred and this was a significant contract design deficiency.

2.88 We noted claims processed were described and labelled as advances in ONB's internal documents and communications to Xplornet. The RDC-ONB agreement explicitly prohibits advancing money; however, ONB stated Xplornet agreed verbally to accept payments as advances for satellite costs and spectrum licenses. While ONB did review documentation submitted with the claims, they required consultation of subject matter experts to verify the value of claims submitted. In our view, the claims should not have been approved prior to finalizing the claim review following expert consultation.

ONB advanced \$4.2 million based on a verbal agreement contradicting the RDC-ONB agreement

2.89 ONB entered into this verbal agreement in contradiction to the terms of their agreement with RDC and significantly changed the nature of funding versus what was approved. ONB indicated they felt the 10% holdback would protect the Province in the event of overpayment; however, the contract stated the holdback was meant to secure the contract deliverables (pending evidence and confirmation of completion). These advance payments totalled \$4.2 million.

Recommendation

2.90 We recommend Opportunities New Brunswick ensure any amendments to contract terms are authorized and documented in writing.

ONB failed to obtain technical expertise to review project claims before funds were released

2.91 We found ONB failed to obtain technical expertise to review project claims. Due to the technical nature of the rural internet contract, we expected ONB would secure appropriate expertise to evaluate the technical aspects of project claims. In our review of the claim approvals, we noted ONB had difficulty, due to their lack of technical expertise, in evaluating whether supporting records demonstrated Xplornet met the terms and conditions of the contract.

2.92 In our audit of ONB's fiscal 2018-2019 financial statements, we noted communications in Xplornet's file indicated ONB was pursuing expert consultation to evaluate the technical aspects of the claims submitted. ONB's response at that time indicated they felt a 10% holdback of claims payments mitigated any risk contract deliverables would not be met. ONB accepted the risk that significant recovery of funds, which exceeds the \$912,000 holdback, may be required if contract deliverables go unmet. At the

time of our work, ONB had yet to evaluate the final holdback amount due and acknowledge completion of phase one.

Recommendation

2.93 We recommend Opportunities New Brunswick acquire the necessary expertise to review technical aspects of future claims before releasing payments to funding recipients.

Unmet Phase One Contract Deliverables

ONB’s contract with Xplornet did not provide clear and specific deliverables

2.94 We found ONB’s contract with Xplornet did not provide clear and specific deliverables and ONB did not have a process to ensure contract terms would be met. In November 2020, the Province and Xplornet issued a press release announcing completion of phase one of the project. The announcement indicated: “10,000 rural households and businesses have access to faster and more reliable internet service in alignment with universal broadband internet service standards”⁷ Exhibit 2.13 shows the locations of towers upgraded in phase one.

Exhibit 2.13 - Phase One Tower Locations and Coverage Area



Source: created by AGNB with information provided by ONB

⁷ Government of New Brunswick Press release 13 November 2020

2.95 We expected ONB to demonstrate contract deliverables and expectations for phase one had been met. This funding phase was meant to provide internet access to 10,000 residences via satellite and an additional 10,000 residences via fixed-wireless. Xplornet was expected to provide 100/10 Mbps speeds via fixed-wireless with an unlimited data plan for a \$99.99 per month subscription fee. The subscription fee was to be capped until March 31, 2020. At the time of our work, ONB informed us 15 towers were upgraded to meet the fixed-wireless service level for Phase one.

The project missed its planned completion date by over one year

2.96 Although the project completion date was planned to be March 31, 2019, live-date for the final tower upgrade was in April of 2020. We found the project missed its planned completion date for tower upgrades by over one year and passed the restricted pricing period for fixed wireless. Under project deliverables, the contract stated eligible costs incurred after the anticipated completion date of March 31, 2019 would still be entitled to funding.

100/10 Mbps was not available to subscribers in the upgraded service area

2.97 We analyzed Xplornet's 2019 subscriber information and noted, out of a total of 23,600 subscribers, only 1,845 of those had subscribed to a package offering 50 Mbps download speed. However, the promised 100/10 Mbps service level was not available to subscribers in the upgraded service area at the time of our work.

2.98 According to information provided by Xplornet, the 15 towers upgraded in phase one served 102 communities. In comparing these communities to the subscriber detail provided, approximately 3,400 subscribed to the fixed-wireless service in these areas. Exhibit 2.14 shows contract expectations versus what was delivered.

Exhibit 2.14 - Contract Deliverables Phase One: Comparing Expectations to Results

<h1 style="text-align: center;">CONTRACT DELIVERABLES</h1> <h2 style="text-align: center;">PHASE ONE</h2> <hr/> <h3 style="text-align: center;">COMPARING EXPECTATIONS TO RESULTS</h3>	
Provide fixed-wireless internet access to 10,000 homes	According to our analysis, the radio bandwidth is insufficient to serve 10,000 residences
Required infrastructure upgrades with an anticipated completion date of 31 March 2019	15 tower upgrades needed – anticipated date missed by over a year
Provide 100/10 Mbps internet speeds for \$99.99 per month to subscribers until 31 March 2020	Xplornet did not offer 100/10 Mbps until May 2021 and at a price of \$119.99 per month.

Source: Created by AGNB

Service offered did not meet the promised speed and price standards

2.99 In March 2021, we examined whether fixed wireless access at 100/10 Mbps was being provided to 10,000 households. We checked service availability on Xplornet’s website in a sample of subscriber postal codes from within these 102 communities. In all cases, we observed Xplornet was offering download speed of up to 50 Mbps for \$99.99 per month, which deviated from the 100/10 Mbps service standard proposed in the funding submission.

2.100 In May 2021, Xplornet announced availability, in 48 communities, of 100/10 Mbps service at a price of \$119.99 per month. After March 31, 2020, per the contract, there was no longer a requirement for 100/10 Mbps to be offered at \$99.99 per month.

2.101 In our view, the price cap would have been more effective if based on a duration of time rather than a defined cut-off date. Under the stated terms, New Brunswickers would not receive a benefit from the pricing stipulated in the ONB-Xplornet contract. However, in October 2019, ONB received a letter from Xplornet acknowledging that the pricing commitment will commence on the date that phase one of the funding has been completed and will be in effect for 12 months.

ONB did not evaluate if the technical solution would handle the internet traffic if 100% of “uncabled” residences were to subscribe to the service

2.102 ONB did not evaluate whether the technical solution provided bandwidth to reliably serve 10,000 subscribers 100/10 Mbps. ONB interpreted “access” as providing a wireless signal to the geographic area and there was no expectation the technical solution would be able to handle the internet traffic if 100% of “uncabled” residences were to subscribe to the service.

ONB accepted and paid for a solution which does not meet the contract deliverable of providing access to 10,000 users

2.103 We analyzed the potential bandwidth of the technical solution, based on the information provided. According to our analysis, the wireless bandwidth is insufficient to serve 10,000 residences. ONB accepted and paid for the solution which does not meet the contract deliverable of providing access to 10,000 users. Additional information regarding our analysis of the technical solution can be found in Appendix V.

Recommendation

2.104 We recommend Regional Development Corporation and Opportunities New Brunswick set and enforce expectations regarding the performance and reliability of the technical solution to handle the required number of subscribers before providing additional project funding.

RDC announced completion of phase one and ONB paid \$8.2 million without verifying outcomes had been achieved

2.105 We found RDC announced completion of phase one and ONB paid \$8.2 million without verifying outcomes had been achieved. In their 13 November 2020 press release, RDC and Xplornet stated: “Phase one was funded in 2018 with a \$10-million non-repayable contribution from the province and a \$20-million investment by Xplornet and is now complete.” We found this announcement concerning.

2.106 In our view, it was premature to announce completion of phase one. ONB was required to submit an evaluation to RDC within 30 days of project completion. However, at the time of our audit, this was not done despite the last tower upgrade having been completed in April 2020. ONB indicated to us the phase one funding was not complete because the final evaluation of project deliverables had not been conducted by them.

Recommendation

2.107 We recommend Regional Development Corporation have a formal project completion and close out process whereby all outcomes are assessed and accounts reconciled before project completion is announced.

RDC and ONB did not enforce the terms of their respective contracts for phase one

2.108 We found RDC and ONB did not enforce the terms of their respective contracts for phase one. We expected RDC and ONB to ensure terms and conditions of their respective contracts were adhered to throughout the duration of the project and in administering the associated funding.

Supporting records submitted with the claim did not meet the contract requirements

2.109 In our review of claims, we observed instances where supporting records submitted with the claim did not meet the contract requirements. Under the contract, Xplornet was required to submit supporting records such as paid invoices, cancelled cheques, bank statements and signed contracts. We found claims were submitted with excerpts from financial statement figures and internal capital asset listings for fixed-wireless tower, satellite and ground station costs. None of the records referenced in the contract were submitted for these claims, yet ONB approved the claims and transferred funds to Xplornet. ONB told us they felt protected because they had advanced the funds to Xplornet

and felt they could recover any overpayments at the end of the project.

Pursuing federal funding for phase two was missed opportunity to enforce the terms of the phase one agreement

2.110 RDC did not acquire a final activity report on funding outcomes which ONB was required to provide within 30 days of project completion. RDC proceeded with the application process to pursue federal funding for phase two without adequately assessing whether ONB or Xplornet had met the terms and conditions of the RDC-ONB agreement. Although completion of phase one was not a condition for pursuing federal funding, in our view, this was a missed opportunity to enforce the terms of the phase one agreement and evaluate whether to proceed as planned.

2.111 We found communication between RDC and ONB was inadequate to ensure they adhered to their respective contracts and agreements. We expected RDC and ONB to collaborate to ensure public funds were safeguarded and used effectively. This did not happen.

Recommendation

2.112 We recommend Opportunities New Brunswick and Regional Development Corporation implement procedures to:

- **evaluate contract performance on a timely basis; and**
- **monitor and enforce the terms and conditions of their funding agreements.**

Neither RDC nor ONB publicly reported on the funding performance for phase one

2.113 We found neither RDC nor ONB publicly reported on performance relative to the funding for phase one. We expected ONB and RDC to develop clearly defined performance metrics at the onset of the project in order to properly evaluate whether project funding is achieving the objective of providing an essential service to New Brunswickers. We also expected either one or both organizations would publicly report on funding performance using such metrics in order to promote transparency in government funding. Neither of them did.

Performance metrics reported were not specific to improving or expanding internet access

2.114 We noted RDC did report on performance related to SII fund and informed us the project leveraged \$20 million in investments and supported 31 full time positions. These performance metrics were related to job creation and local reinvestment of funds. They were not specific to improving or expanding internet access.

ONB and RDC were not held accountable for the outcomes related to provincial funding for rural internet

2.115 Without public reporting on project progress against appropriate performance metrics, ONB and RDC were not held accountable for the outcomes related to provincial funding for rural internet. In our view, performance metrics should measure both the outcomes and the extent to which outcomes are attributable to government funding. Performance metrics for rural internet projects should measure attributes of the internet service against service level expectations to ensure intended outcomes are being achieved.

Recommendation

2.116 We recommend Opportunities New Brunswick and Regional Development Corporation define specific metrics for rural internet service and publicly report on progress to ensure accountability.

Rural Internet Funding: Phase Two

2.117 We reviewed the documentation of the phase two Federal application for rural internet funding and noted risks related to New Brunswick's obligations. We sought clarification in relation to these risks; however, at the time of our work, RDC did not provide a satisfactory explanation regarding any of the following:

- budget figures did not align with original proposal considering phase one costs incurred;
- the statement of work for phase two included towers which were upgraded in phase one;
- fixed wireless budget for phase one reduced and moved to phase two; and
- since there was no statement of work for phase one, it would be difficult for RDC to reconcile the work remaining to what was originally proposed.

2.118 In the November 2017 funding submission, eligible costs for the entire project, prior to being split into two phases, were \$89 million. Phase one included eligible costs of \$30 million. The purchase of spectrum licenses increased eligible costs by an additional \$10 million and therefore, \$69 million eligible cost should remain from the original proposal (not considering potential savings due to fewer towers in the design because of additional spectrum).

2.119 In the contribution agreement between New Brunswick and Xplornet, eligible costs for phase two are identified for a total of \$80 million. Exhibit 2.15 compares the project budget originally submitted with the November 2017 funding proposal, the actual project costs incurred in phase one and the project budget included in the phase two contribution agreement.

Exhibit 2.15 - Eligible Cost Comparison: Project Proposal, Phase One Actuals and Phase Two Budget (\$ millions)

Eligible Cost Comparison: Project Proposal, Phase One Actuals and Phase Two Budget (\$ millions)			
Eligible Costs	November 2017 proposal (phase one and two combined)	Phase one expenditures (actual as of March 2020)	September 2020 phase two contribution agreement (budgeted)
Fibre Construction	37.2	0.0	38.1
Fibre Core	6.5	10.0	0.0
Fixed Wireless Construction	23.3	4.8	25.7
Satellite Capacity and Gateway	3.5	11.0	0.0
Network Connectivity	0.0	0.0	15.2
Customer Premise Equipment & Installation	18.4	2.0	0.0
Wage Capitalization, Program Management and Support	0.0	0.0	1.0
Spectrum	0.0	10.5	0.0
Total Eligible	88.9	38.3	80.0
Ineligible costs	62.0	0.0	51.6
Total Project Cost	150.9	38.3	131.6

Source: Created by AGNB from unaudited data from ONB and RDC

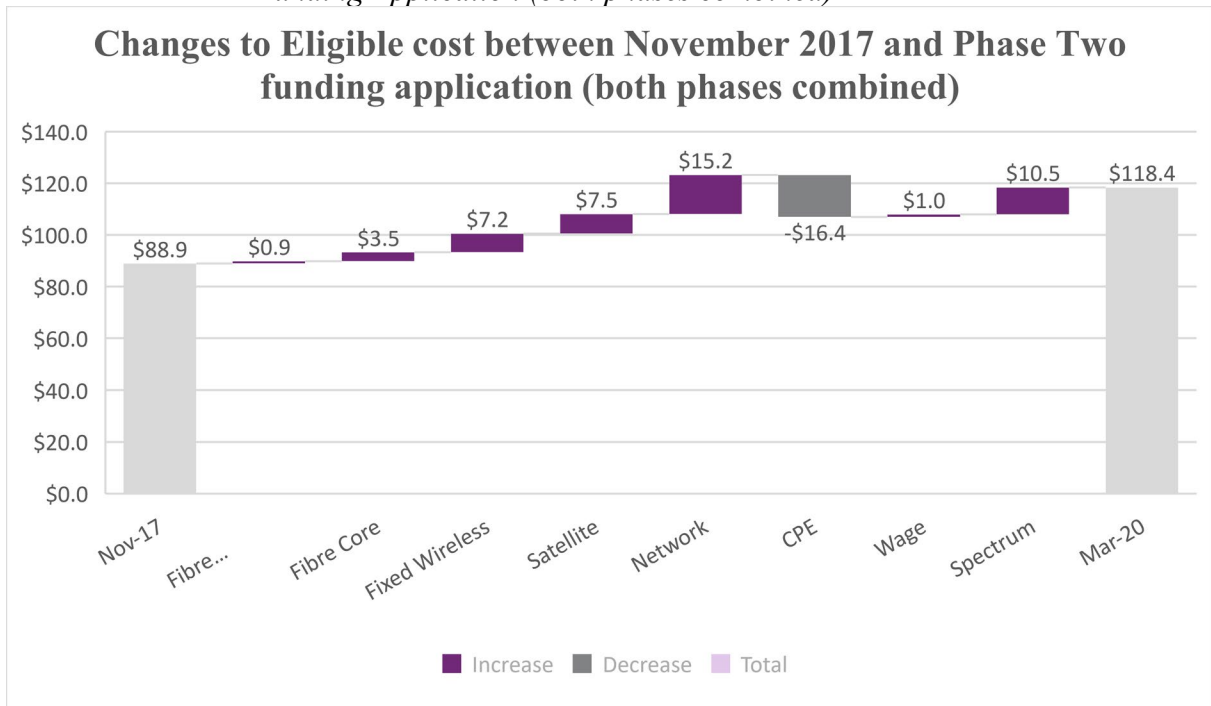
Fixed wireless construction costs increased by 31% over 2017 proposal

2.120 We noted, despite purchasing spectrum licenses and reducing the number of towers to be upgraded, the budget for fixed-wireless construction in phase two has increased and is greater than what was originally proposed in 2017. This increase combined with the actual \$4.8 million spent on fixed wireless construction in phase one will result in \$30.5 million total fixed wireless costs versus \$23.3 million

from the November 2017 funding application, a 31% increase.

2.121 Overall, the approved project cost increased by \$30 million due to the introduction of spectrum and network connectivity costs as well as increases to fixed-wireless and satellite budgets. Exhibit 2.16 shows changes to eligible costs over time for the two phases combined.

Exhibit 2.16 - Changes to Eligible Cost Between November 2017 and Phase Two Funding Application (both phases combined)



Source: Created by AGNB from unaudited data from ONB and RDC

Information submitted to the Federal government in a project change request was incorrect

2.122 We found information submitted to the Federal government in a project change request was incorrect. In March 2020, New Brunswick requested to change the Federal cost-share from 38.83% to 49.95% so Xplornet can have access to the entire program contribution of \$40 million. RDC submitted the change request to the Federal government stating: “The total eligible costs have been reduced . . . by decreasing the number of tower sites and removing Customer Premise Equipment and Installation component that was deemed ineligible.”

- Change request failed to acknowledge overall eligible costs have increased*** **2.123** Removal of customer premise equipment did reduce eligible costs by \$16.4 million; however, fixed-wireless construction costs have increased over what was originally proposed in the funding application. RDC told us this increase was due to Xplornet choosing a different brand of radio equipment versus what was considered in the 2017 proposal. However, without more detailed information on the variance in fixed wireless construction costs, we were unable to validate the net effect of reducing wireless towers versus choosing another brand of equipment.
- Statement of work for phase two included 14 of the 15 phase one towers*** **2.124** In our review of the statement of work documentation for phase two, we noted 14 of the 15 phase one towers were included. RDC could not provide an explanation as to what work remained to be completed on these towers. During our work, RDC indicated to us they requested Xplornet remove phase one towers from the phase two statement of work.
- RDC may not be able to reconcile Phase one and Phase two work*** **2.125** It is unclear whether the progress in the phase one project is being captured within the project budget for phase two. Overall, as there was no statement of work for phase one, it would be difficult for RDC to reconcile what work was required to meet the deliverables for phase one and what remains for phase two. RDC indicated to us they were unaware any work had been conducted on phase two towers in phase one. Without such a reconciliation, we could not determine if phase two budget estimates were accurately calculated.
- 2.126** We expected RDC would have a process in place to screen expenses prior to submitting to the Federal government. At the time our work was completed, no claims had been approved for phase two, so we were unable to verify what screening process will be in place. RDC indicated to us Xplornet will be paid only for costs incurred after the Federal approval date. At the time of our work; however, the Federal approval date had passed and work on phase one appeared to be ongoing. In our view, this overlap in phases presents a risk that current phase one work may be submitted as part of phase two funding.

Recommendation

2.127 We recommend Regional Development Corporation implement a review process for rural internet upgrade phase two funding to ensure claims submitted to the Federal government are accurate and compliant with the Integrated Bilateral Agreement and no costs are claimed related to phase one work.

Phase two reporting on outcomes will be required in 2027

2.128 We found phase two reporting on outcomes will be required in 2027. We were encouraged to note, under the IBA, the contract for phase two appears to include elements of control which will help to ensure contract deliverables are met. Phase two has been developed with a project budget, scope of work, schedule, and acceptance test plan.

2.129 Under the IBA, information such as annual infrastructure plans and reporting such as project progress are required to be submitted to the Federal government, and final reporting will conclude in 2027. The Federal government reserves the right, under the IBA, to share information publicly and report on the success of programs supported by the agreement.

2.130 The phase two project is scheduled to be completed in 2024; however, public reporting on results of the IBA is slated for three years after project completion.

Recommendation

2.131 We recommend Regional Development Corporation explore options to report publicly on the progress of the internet upgrade in a more timely manner and at least annually.

Appendix I – Audit Objectives and Criteria

The objective and criteria for our audit of funding for rural internet are presented below. Opportunities New Brunswick and Regional Development Corporation senior management reviewed and agreed with the objective and associated criteria.

Objective	To determine if funding for rural internet is achieving the desired outcome of providing rural New Brunswickers access to affordable high-speed internet.
Criterion 1	The province should conduct a needs assessment to define the scope of the funding.
Criterion 2	Opportunities New Brunswick and Regional Development Corporation should ensure funding outcomes align with the Canadian Radio-television and Telecommunications Commission’s standards for internet speed and are priced competitively for the local market.
Criterion 3	The province should establish sound governance structures to manage the rural broadband upgrade project.
Criterion 4	Opportunities New Brunswick and Regional Development Corporation should ensure funding outcomes and eligibility criteria are clear and communicated publicly to ensure fairness.
Criterion 5	Opportunities New Brunswick and Regional Development Corporation should ensure due diligence process has been established to evaluate, select and communicate funding recipients in accordance with eligibility criteria.
Criterion 6	Opportunities New Brunswick and Regional Development Corporation should ensure funding is disbursed for the agreed upon purpose.
Criterion 7	Opportunities New Brunswick and Regional Development Corporation should have an accountability framework to monitor and report on Phase I project outcomes and progress on Phase II.

Source of Criteria: Developed by AGNB based on review of legislation, best practices and reports by other jurisdictions’ Auditors General. Further guidance was obtained from documents published by Canadian Radio-television and Telecommunications Commission; Innovation, Science and Economic Development Canada; Infrastructure Canada; Treasury Board of Canada and the Atlantic Growth Strategy.

Appendix II – About the Audit

This independent assurance report was prepared by the Office of the Auditor General of New Brunswick on Opportunities New Brunswick (ONB) and Regional Development Corporation (RDC) on Funding for Rural Internet. Our responsibility was to provide objective information, advice, and assurance to assist the Legislative Assembly in its scrutiny of ONB's and RDC's provision and administration of funding for rural internet.

All work in this audit was performed to a reasonable level of assurance in accordance with the Canadian Standard on Assurance Engagements (CSAE) 3001 – Direct Engagements set out by the Chartered Professional Accountants of Canada (CPA Canada) in the CPA Canada Handbook – Assurance.

AGNB applies Canadian Standard on Quality Control 1 and, accordingly, maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

In conducting the audit work, we have complied with the independence and other ethical requirements of the Rules of Professional Conduct of Chartered Professional Accountants of New Brunswick and the Code Professional Conduct of the Office of the Auditor General of New Brunswick. Both the Rules of Professional Conduct and the Code are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

In accordance with our regular audit process, we obtained the following from management:

- confirmation of management's responsibility for the subject under audit;
- acknowledgement of the suitability of the criteria used in the audit;
- confirmation that all known information that has been requested, or that could affect the findings or audit conclusion, has been provided; and
- confirmation that the findings in this report are factually based.

Period covered by the audit:

The audit covered the period between April 1, 2018 and March 31, 2020. This is the period to which the audit conclusion applies. However, to gain a more complete understanding of the subject matter of the audit, we also examined certain matters that preceded the starting date of the audit.

Date of the report:

We obtained sufficient and appropriate audit evidence on which to base our conclusion on September 23, 2021, in Fredericton, New Brunswick.

Appendix III – Subsequent Events

Under the Canadian Standard on Assurance Engagements (CSAE) 3001 – Direct Engagements set out by the Chartered Professional Accountants of Canada (CPA Canada) in the CPA Canada Handbook – Assurance; paragraph 66 states the following in respect to subsequent events:

When relevant to the engagement, the practitioner shall consider the effect on the underlying subject matter and on the assurance report of events up to the date of the assurance report, and shall respond appropriately to facts that become known to the practitioner after the date of the assurance report that, had they been known to the practitioner at that date, may have caused the practitioner to amend the assurance report.

The subjects below were matters which occurred outside of our period of audit but were significant undertakings by the auditees in respect to funding for rural internet. In all cases, we considered the effect on the underlying subject matter and conclusions of our report.

Phase I towers completed 30 April 2020

According to the information provided by ONB, the 15th and final tower upgrade was finished 30 April 2020.

Phase II agreement dated 20 May 2020

According to information provided by RDC, maximum Federal funding for phase two, under the *Canada-New Brunswick Integrated Bilateral Agreement for the Investing in Canada Infrastructure Program*, was approved in the amount of \$40 million. The funding will be awarded at a contribution rate of 49.95% of eligible costs.

Announcement of completion of phase one 13 November 2020

RDC published a press release on 13 November 2020 with the headline *Further broadband upgrades coming to rural New Brunswick*. The release stated: “Phase one was funded in 2018 with a \$10-million non-repayable contribution from the province and a \$20-million investment by Xplornet and is now complete.”

Announcement of 100/10 availability 18 May 2021

Xplornet published a press release on 18 May 2021 with the headline *Faster Speeds Available: Xplornet providing access to 100/10 Mbps speeds to more than 11,000 homes and businesses in New Brunswick*. The release stated: “Xplornet . . . launched Xplore 100×10 UNLIMITED service today across 48 rural communities in New Brunswick, offering download speeds up to 100 Mbps and upload speeds up to 10 Mbps with full speed unlimited data to more than 11,000 homes and businesses.”

Evaluation of final claim and holdback ongoing as of reporting date

ONB informed us that progress toward an evaluation of the final claim and holdback, worth \$791 000 and \$1 million respectively, was made as of the date of our report.

At the time of our report, nine of 15 tower completion certificates, indicating the coverage area of each tower, had been received and validated by ONB. Additional work was conducted to validate the number of households in each of the coverage areas. The nine towers provided service to 7,800 of the 10,000 households per ONB’s analysis.

According to ONB, evaluation of the remaining deliverables was ongoing.

Appendix IV–Definitions and Technical Terms

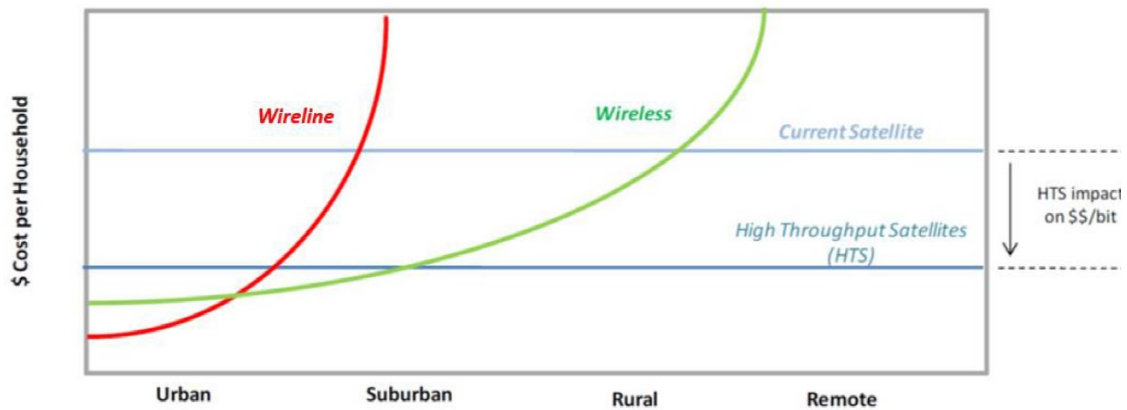
Term	Defined
50 megabits per second for download and 10 megabits per second for upload (50/10 Mbps)	Speed identified by CRTC for Canadians to take advantage of cloud-based software applications, multiple government services, online learning resources and high-definition streaming videos.
Atlantic Growth Strategy	A strategy launched by the Government of Canada and the Atlantic provincial governments to accelerate the growth of Atlantic Canada’s economy.
Bandwidth	The amount of data that can be sent through a connection, usually measured in bits per second.
Coaxial cable (COAX)	A copper wire surrounded by insulation which is itself surrounded by a grounded shield of braided wire, minimizing electrical and radio frequency interference.
Contribution	A conditional transfer whereby specific terms and conditions must be met or carried out by a recipient before costs are reimbursed.
Digital subscriber line (DSL)	A family of digital telecommunications protocols designed to allow high-speed data communication over the existing copper telephone lines between end-users and telephone companies.
Download speed	The speed at which data, including pictures and video, is being delivered to you from the Internet.
Fiber	A type of cable that uses glass threads or plastic fibres to transmit data using pulses of light.
Fixed wireless	A service for providing high-speed internet to a fixed location, such as a home or business. The wireless signal is typically transmitted from a tower to an antenna installed on the roof of the home or business in question.
Guaranteed household percentage	The percentage of subscribing households that are guaranteed to achieve a specific set of download/upload speed requirements simultaneously, while all other households would still get a minimum download/upload speed.
Internet Service Provider (ISP)	The company that provides access to the internet.
Last Mile	The connection between the broadcast tower and the customer’s premises.
Latency	The time it takes for data to travel from a source to a destination. A shorter latency is better.
Loan guarantee	A promise by the Province to pay all or a part of the principal and / or interest on a debt obligation in the event of default by the funding recipient.

Appendix IV–Definitions and Technical Terms – *continued*

Term	Defined
Maximum resource requirement to serve farthest subscribing household	Limit on percentage of spectrum resources used by the farthest subscribing household at the edge of the coverage area to achieve the target download/upload speed requirements.
Maximum oversubscription ratio	Ratio of a specific set of download/upload speed requirements to the system capacity per required number of subscribers. Whereas a ratio of 1 would mean all subscribers can access 100% of the specified download/upload speed simultaneously, a ratio of 20 would mean all subscribers can access 5% of the specified download/upload speed simultaneously.
Minimum service standard	Providing a target download/upload speed when required by subscribing households up to the farthest edge of the service area and providing a minimum QoS to all subscribing households at all times.
Megabits per second (Mbps)	The most common unit of measurement for describing the speed of high-speed internet connections.
Needs assessment	Is a process that would identify high speed internet service gaps across rural New Brunswick. The assessment should include as a minimum identification of internet service needs of different users and mapping of assets/ properties with potential internet needs after collecting detailed unbiased community-level data to scope out the requirements to meet the 50/10 objective.
Quality of service (QoS)	Evaluates whether a technical solution meets criteria for latency, packet loss and jitter.
Satellite	A microwave receiver, repeater, and regenerator in orbit above earth.
Spectrum	The full range of radio waves used to transmit sound and data wirelessly.
Spectrum License	The Canadian government regulates access to spectrum under the authority of Industry, Science, and Economic Development (ISED) Canada, which provides access to the radiofrequency spectrum by issuing authority for its use.
“Uncabled” residences	Xplornet’s determination of their target customers.
Upload speed	The speed at which data travels to you from the Internet, such as the speed to upload a video.
Uptime	Refers to the percentage of time a machine or system is in operation.
Wireless transceiver	A device consisting of a transmitter and a receiver.

Appendix V– Brief Technology Explanation

The most common delivery methods for internet to residences fall under wireline, wireless and satellite technology. Offering internet in rural areas is a challenge due to the cost of equipment in relation to the number of households. In areas of higher population density, expensive equipment becomes more feasible as the investment can be recovered over time from a greater distribution of internet subscribers. By contrast, in rural areas, more investment is required to reach fewer subscribers. Private investment in equipment is less attractive in these areas. The following table depicts the three technologies and their cost in relation to types of population centre.



Source: Bright Star Canada: *Nova Scotia Department of Business Last Mile Strategy*

The following table shows speed capabilities of the alternative internet technologies. Generally, running physical cables to houses in rural and remote areas is costly and, in the case of DSL and cable, performance becomes an issue over long distances as well. Fixed Wireless and Satellite solutions become attractive options for these areas, although potential speeds currently lag what is possible with a cable or fiber-optic connection.

Appendix V– Brief Technology Explanation – *continued*

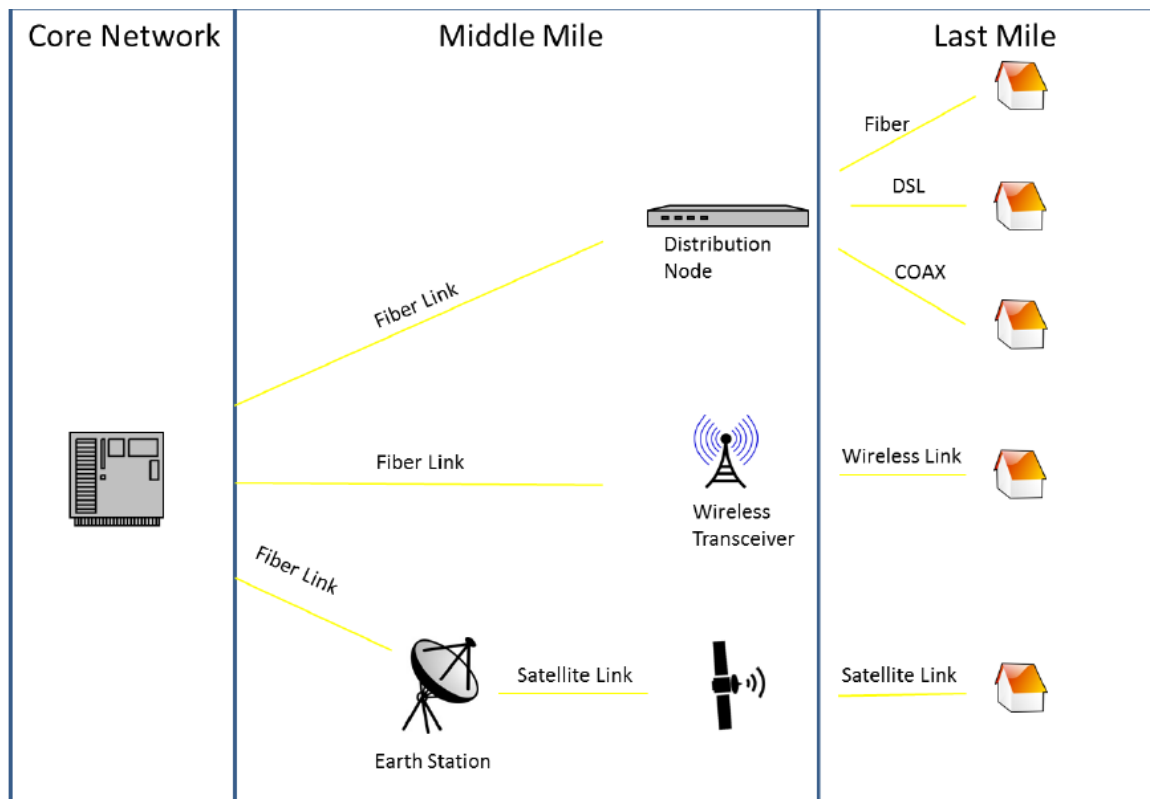
Technology Type	Speed Capabilities	Most Common Usage	Trend
DSL	1.5 – 25 Mbps	Lower speeds in rural areas due to long copper loops, higher speeds in urban due to fibre	Speeds increasing in urban areas, but not being matched in rural settings
Fibre to the Home	25 – 1,000 Mbps	Used to offer bundles of TV and high-speed Internet access	Most deployments in urban areas and new developments
Cable (DOCSIS)	6 – 250 Mbps	Used to offer bundles of TV and high-speed Internet access	Speeds typically increasing throughout service areas
Fixed Wireless	<1 – 150 Mbps	Used in rural areas where there are some facilities to carry traffic	Although high speeds theoretically possible, most residential offerings are 5 Mbps and below
Mobile Wireless	<1 – 150 Mbps	Used either with smartphones and tablets, or for home access in some areas	Speed varies greatly by location, and depends on number of users; highest speeds in urban areas
Satellite	<1 – 10 Mbps	Used mainly in regions that do not have reliable alternative options, or as backup	Speeds increasing due to new satellite technology (up to 25 Mbps), but still lag behind more advanced options

Source: Federation of Canadian Municipalities

Fixed wireless uses a broadcast tower to provide a wireless signal to a receiver installed at the subscriber's location. The advantage is a broadcast signal can cover a wide geographic area with a reduced investment in physical cable. Fixed wireless technology has limitations in that physical obstacles and adverse weather conditions may interrupt the wireless signal.

Satellite internet service is similarly a wireless solution which covers a wide geographic area. Satellite can be similarly interrupted by adverse weather conditions. Additionally, satellite solutions are limited by the physical distance of satellites from the earth, which increases latency; the term used to describe the delay incurred in moving data across a network. The following table depicts common internet technologies and their linkages, consisting of core network, middle mile to distribution technology and last mile to the end user.

Appendix V– Brief Technology Explanation – continued



Source: Ernst and Young: *Review of Alternatives for Rural High Speed Internet*

The rural internet upgrade proposed by Xplornet primarily uses fixed-wireless technology, consisting of a fiber link to radio towers which then transmit a signal to equipment at the customer premises. Radio transmission is via a frequency band (spectrum), measured in hertz (Hz) of which there are a variety and consist of varying signal strength characteristics and data transfer potential. The project also included limited and temporary use of satellite, but this technology is unable to achieve the required download speed.

Phase one of the project uses 2.5GHz and 3.5GHz spectrum. In April, 2019, Xplornet purchased licences to allow the use of 600 MHz. For Phase two, Xplornet proposes to use 600MHz in addition, but with fewer wireless transmission towers. This is a significant engineering design change of Xplornet’s original proposal.

It is possible that a fixed-wireless deployment plan utilizing 600MHz but with fewer towers can provide the same data rate to the end users as compared to an alternative plan utilizing 2.5GHz and 3.5GHz alone and more towers. This is because the 600MHz band has better wireless signal strength characteristics. However, some customers will now be farther away from the nearest tower because there are fewer towers overall, so their signal strength in the 2.5GHz and 3.5GHz spectrum will drop.

The design was meant to provide 73,000 “uncabled” residences with access to 100 Mbps download speed. The 100 Mbps speed is an advertised peak data rate. The actual data rate that the customers experience will depend on how far away the customers

Appendix V– Brief Technology Explanation – *continued*

are located from the wireless tower and how many customers are being served simultaneously by the tower at any given time.

The revised Phase two proposal is premised on reducing the number of wireless tower sites from 170 to 148. In Xplornet’s new deployment plan, because the number of wireless towers is reduced, each needs to support a larger number of subscribers. In the current design, the 73,000 “uncabled” residences would need to share 148 towers, each with a rated capacity of 1.7 Gbps. Assuming 500 customers per base-station, this would give only 3.4 Mbps simultaneously per subscriber.

It is unlikely, however, that all subscribers would require full access to a tower simultaneously at any given time. Innovation, Science and Economic Development Canada (ISED) suggests the use of an oversubscription ratio to predict the integrity of a fixed wireless network, calculated as the rate requirement (100 Mbps) divided by the available rate to targeted customers. ISED suggests a value of 20 or lower is reasonable for the oversubscription ratio⁸.

Based on the deliverable, which states 73,000 “uncabled” residences is the target, the oversubscription ratio based on 100 Mbps required and 3.4 Mbps available would be 29, which falls outside of ISED’s suggested acceptable range for the metric.

Xplornet’s original proposal anticipated a market penetration rate of 40%, indicating they expected approximately 30,000 subscribers, or 200 per tower, would sign on to the service. Assuming 200 customers per tower, this would give 8.5 Mbps per customer. With 8.5 Mbps available to 30,000 subscribers, the result would be an oversubscription ratio of 11.8, which falls within the reasonable range.

For phase one of the project, the deliverable stated 10,000 residences would have access to 100 Mbps download speed. Upgrades to 15 towers in this phase resulted in each having 1.7 Gbps capacity, which would serve an average of 667 subscribers. The oversubscription ratio for the phase one work calculates as 39, outside of the acceptable range as per ISED. It appears the technical solution was not designed to support the number of users quoted in the proposal and required by the contract.

Future contracts for funding similar projects would benefit from the use of oversubscription ratio and other such metrics to ensure results are achieved. Possible metrics for evaluating the wireless service include compliance with:

⁸ Communications Research Centre Canada: *Capability Evaluation of Fixed Wireless Access Systems to Deliver Broadband Internet Services*
[https://www.ic.gc.ca/eic/site/139.nsf/vwapj/CapabilityEvaluationBroadbandInternetService.pdf/\\$file/CapabilityEvaluationBroadbandInternetService.pdf](https://www.ic.gc.ca/eic/site/139.nsf/vwapj/CapabilityEvaluationBroadbandInternetService.pdf/$file/CapabilityEvaluationBroadbandInternetService.pdf)

Appendix V– Brief Technology Explanation – continued

Metric	Definition
Oversubscription Ratio	Combined service capacity that a group of end users have subscribed to divided by the network capacity provisioned to support those end users.
Minimum Service Standard	Minimum download/upload speed subscribing households are capable of achieving simultaneously.
Guaranteed Household Percentage	Percentage of subscribing households that are guaranteed to achieve target download/upload speeds simultaneously, while all other households would still get a minimum quality of service.
Maximum Resource Requirement to Serve Farthest Subscribing Household	Maximum percentage spectrum resource to provide the farthest subscribing household at the edge of the coverage area target download/upload speed without significantly reducing service quality to other subscribing households.
Quality of Service	Expectations for latency, packet loss and jitter.
Uptime Availability Standards	Measure of reliability expressed as the percentage of time in which a network is operational.

Source: Communications Research Centre Canada: *Capability Evaluation of Fixed Wireless Access Systems to Deliver Broadband Internet Service*

Appendix VI– Atlantic Canadian Jurisdictional Information

	NS	NL	PEI	NB
Planning	<ul style="list-style-type: none"> • A needs assessment was conducted • Key stakeholders were consulted • Strategic plans⁹ in place 	<ul style="list-style-type: none"> • A background study was conducted in 2005 • Rural Broadband Initiative (RBI) launched in 2011 to provide incentives to ISPs to expand broadband access into unserved and underserved rural and remote areas 	<ul style="list-style-type: none"> • A broadband internet network build and operations – Planning worksheet¹⁰ in place 	<ul style="list-style-type: none"> • No needs assessment was conducted • Except for a platform commitment, there is no strategy

⁹ [Internet-for-Nova-Scotia-Initiative-Strategic-Plan.pdf \(developns.ca\)](https://developns.ca/Internet-for-Nova-Scotia-Initiative-Strategic-Plan.pdf)

¹⁰ [Broadband Internet network build and operations - Proponent Instructions | Government of Prince Edward Island](#)

	NS	NL	PEI	NB
Target	<ul style="list-style-type: none"> 50/10 Mbps speeds for wired, 25/5 Mbps for wireless, with a demonstrated plan to reach 50/10 Mbps 	<ul style="list-style-type: none"> Unknown 	<ul style="list-style-type: none"> 50/10 Mbps speeds for 90 per cent of homes and businesses 	<ul style="list-style-type: none"> To exceed CRTC mandated speeds of 50 megabits per second (Mbps) and upload speeds of 10 Mbps for 90 per cent of households by: <ul style="list-style-type: none"> providing up to 100 Mbps download speeds and up to 10 Mbps upload speed via fixed wireless technology; and providing up to 25 Mbps download speeds and up to 5 Mbps upload speed via satellite technology.

	NS	NL	PEI	NB
Contracting	<ul style="list-style-type: none"> • An initial call to organizations interested in providing internet issued in Dec 2018, led to 10 pre-qualified organizations • A request for proposal for projects issued in May 2019 led to contract with five ISPs • Five more pre-qualified were added leading to 15 pre-qualified proponents¹¹ 	<ul style="list-style-type: none"> • A request for proposal for the RBI resulted in four companies being successful to connect to 81 communities¹². • The Province contracted Bell Aliant to extend broadband coverage to 13 rural communities¹³ • In 2018, there was a Federal-provincial agreement to serve up to 70 rural and remote communities¹⁴ 	<ul style="list-style-type: none"> • A request for proposal issued in 2018 for expansion of broadband across the Province¹⁵ • Two separate agreements signed with Bell and Xplornet • Agreements in place for Islanders through the PEI Broadband Fund (PEIBF). The fund provides funding up to \$150,000 to local companies. As of October 2020, over 15 companies had been supported 	<ul style="list-style-type: none"> • No tendering process • In 2018, the Province approved a \$10 million contribution for phase one of a two-phased project with Xplornet. The Province conditionally approved the second phase of the project with a total estimated project cost for both phases of \$150 million.

¹¹ [FAQs | Internet for Nova Scotia Initiative | Develop Nova Scotia \(developns.ca\)](#)

¹² [Broadband Service Extended to Over 5,000 Additional Households \(gov.nl.ca\)](#)

¹³ [Thirteen Communities to Receive Broadband Service \(gov.nl.ca\)](#)

¹⁴ [Significant Investments to Improve Internet Access in Newfoundland and Labrador - News Releases \(gov.nl.ca\)](#)

¹⁵ [Expansion of Broadband Internet Services Across PEI | Government of Prince Edward Island](#)

	NS	NL	PEI	NB
Administration	<ul style="list-style-type: none"> Funding managed by Develop Nova Scotia, a Crown Corporation¹⁶ 	<ul style="list-style-type: none"> Funding managed by the Department of Innovation, Business and Rural Development (IBRD) 	<ul style="list-style-type: none"> Funding for local ISPs managed by PEIBF eligibility and application process publicly available 	<ul style="list-style-type: none"> Funding is provided by the Regional Development Corporation and administered by Opportunities New Brunswick

¹⁶ [Project Background | Internet for Nova Scotia Initiative | Develop Nova Scotia \(developns.ca\)](#)

	NS	NL	PEI	NB
Monitoring and Accountability	<ul style="list-style-type: none"> • SLAs include provisions that require quality and service reporting as well as inspection and audit of network installation • Regular meetings with partners to check progress against objectives • Checks on equipment and installation progress remotely and through in-person inspection by an experienced engineer when safe to do so 	<ul style="list-style-type: none"> • Not publicly available 	<ul style="list-style-type: none"> • Funding is provided incrementally as companies meet performance and construction milestones 	<ul style="list-style-type: none"> • No formalized accountability framework. • Funds are provided irrespective of project completion status.
Public Reporting on Progress	<ul style="list-style-type: none"> • Coverage maps of underserved areas, timeline and progress 	<ul style="list-style-type: none"> • Not publicly available 	<ul style="list-style-type: none"> • Coverage maps of underserved areas, timeline and progress available for large contracts • Approved projects for the PEIBF available 	<ul style="list-style-type: none"> • No public reporting on progress