



Office of the Auditor General (OAG) – Audit of Connectivity in Rural and Remote Areas

Innovation, Science and Economic Development (ISED) – Detailed Action Plan

Report Ref. No.	OAG Recommendation	ISED Response	Description of Final Expected Outcome/Result	Expected Final Completion Date	Key Interim Milestones (Description/Dates)	Responsible Organization/ Point of Contact
Broadband Strategy						
37.	<p>Innovation, Science and Economic Development Canada should develop a strategy that:</p> <ul style="list-style-type: none"> defines the minimum level of reliable and high-quality Internet service to be made available to Canadians; sets clear timelines for achieving this level of service; estimates proper resourcing, including financial and technical resources, as well as analysis of technologies and preferred options for improving broadband deployment cost-effectively; and, monitors whether the improved access leads to the adoption of those Internet services. 	<p>Agreed. Innovation, Science and Economic Development Canada will develop a strategy, particularly in light of the following:</p> <ul style="list-style-type: none"> the Canadian Radio-television and Telecommunications Commission’s decision in December 2016 declaring broadband as a basic service; and the June 2018 announcement in which the government committed to reviewing Canada’s communications legislation, including the legislative tools needed to promote universal access. <p>Innovation, Science and Economic Development Canada already has comprehensive work under way. The Department has a strong understanding of the baseline of progress, technologies, and costs, which the Department evaluates on an ongoing basis in light of marketplace changes.</p> <p>In spring 2018, the Department established the Federal-Provincial-Territorial Connectivity Committee, which is working collaboratively to examine service levels, priorities, principles, and gaps, as well as to develop coordinated plans of action.</p> <p>In June 2018, the Department launched a national digital and data strategy consultation—of which connectivity is a foundational component—in order to drive innovation, prepare Canadians for the future of work, and ensure trust and confidence in the digital world.</p> <p>The Department continues to promote private-sector competition and investment through marketplace frameworks, spectrum measures, and initiatives to encourage innovative technologies.</p>	<p>A strategy that responds to the connectivity needs of Canadians, including those in rural, remote, and Indigenous communities.</p> <p>The strategy will recognize the importance of a collaborative approach between various actors including the federal government, provinces and territories and the private sector to realize the strategy’s objectives and maximize benefits for Canadians.</p> <p>It will be informed by the Department’s analysis and the ongoing work of the Federal-Provincial-Territorial Connectivity Committee.</p> <p>The Department will work in close collaboration with the Canadian Radio-television and Telecommunications Commission (CRTC) on data collection and mapping to ensure a shared understanding of the state of broadband access in Canada, and as the CRTC implements its new \$750 million Broadband Fund.</p>	Summer 2019	<p>As part of its ongoing efforts to monitor and benchmark progress on the state of connectivity in Canada, the Department conducted gap and costing analysis to achieve universal access at speeds of 50/10 Mbps. (2017)</p> <p>Building off of existing engagement, the Department formalized the establishment of a Federal-Provincial-Territorial Connectivity Committee to evaluate broadband gaps and targets, share information, develop a policy framework, and coordinate forward planning on broadband. (April 2018)</p> <p>The Department conducted gap and costing analysis to identify mobile connectivity gaps for major roads and highways across Canada, and the costs to close those gaps. (Summer 2018)</p>	Senior ADM, Strategy and Innovation Policy Sector

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		Collectively, these actions will help inform the development of a connectivity strategy within an overall framework for data and digital transformation.	The ongoing Broadcasting and Telecommunications Legislative Review Panel will also inform the development of the strategy. The Panel began public consultations in September 2018. It will issue a report on consultation results in spring 2019, which will be considered in the context of the strategy.		<p>Federal government and provincial-territorial partners agreed to the principles of a Canadian broadband strategy that will work towards universal access to high-speed Internet and the latest mobile wireless services along major roads. (October 2018)</p> <p>The Federal-Provincial-Territorial Connectivity Committee will further refine research and analysis on coverage baselines and gap and costing analysis. Work will also be undertaken to examine complementary measures such as access to passive infrastructure and program coordination and implementation considerations. (Spring 2019)</p> <p>A Federal-Provincial-Territorial Ministerial meeting will be planned with the objective of obtaining consensus on the framework of the national connectivity strategy, and align policy actions towards achieving universal access to high-speed Internet and the latest mobile wireless services along major roads. (Spring 2019)</p> <p>Collectively, these actions will inform the development of a national connectivity strategy by Summer 2019.</p>	

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Connect to Innovate						
48.	<p>Innovation, Science and Economic Development Canada, in collaboration with the Canadian Radio-Television and Telecommunications Commission, should make a detailed connectivity map publicly available and update it regularly while respecting the confidentiality of service providers' data.</p>	<p>Agreed. The maps of Innovation, Science and Economic Development Canada and the Canadian Radio-television and Telecommunications Commission are as detailed as can be published at this time while respecting the commercially sensitive nature of Internet Service Providers' network information. The Department and the Commission continue to work with Internet Service Providers to refine the published maps.</p> <p>Over the last three years, the Department has made great efforts to advance connectivity mapping and data sharing. The improved National Broadband Internet Service Availability Map is one such example. The release of demographic data on the Government of Canada's Open Data Portal is a second. More releases are planned later in the 2018-19 fiscal year, including community-level backbone connectivity status.</p> <p>The Department will continue to collaborate with the Commission on the ongoing collection and maintenance of up-to-date connectivity information. In consultation with industry, the Department will continue to evaluate what further refinements are possible while respecting the commercially sensitive nature of information being used in the maps.</p>	<p>Accurate, accessible and timely connectivity information is made publically available and respects service providers' confidentiality.</p>	<p>January 2019</p>	<p>As part of our ongoing collaboration, we have renewed our existing Memorandum of Understanding on Data Sharing between ISED and the CRTC, and extended the renewal period from three to five years. (August 2018)</p> <p>To provide Canadians, policy and program officials and Internet Service Providers (ISP) with quick and easy, interactive access to key connectivity information, an online, searchable map showing ISP service availability, which respects ISP data confidentiality, was published. (September 2018)</p> <p>To provide stakeholders with access to detailed connectivity data in formats that are better suited for analysis, planning and coordination purposes, data will be published on the Government of Canada Open Data portal. Specific elements of that data release offer an increasingly precise view of connectivity in Canada down to the household and community levels which include:</p> <ol style="list-style-type: none"> 1. Underlying demographic (mapping) data for household locations in Canada. (July 2018) 	<p>Director General, Connected Canada Branch, Digital Transformation Service Sector is responsible for all elements except the Memorandum of Understanding between ISED and CRTC, for which the Director General, Telecommunications and Internet Policy Branch, Strategy and Innovation Policy Sector is responsible</p>

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					<p>2. Underlying demographic (mapping) data defining service areas in Canada. (August 2018)</p> <p>3. Underlying demographic (mapping) data defining community locations (place names) in Canada. (August 2018)</p> <p>4. ISP service availability data, in a level of detail that respects ISP data confidentiality. (September 2018)</p> <p>5. Broadband backbone connectivity data by community (respecting ISP data confidentiality). (January 2019)</p> <p>6. Broadband connectivity data by household (respecting ISP data confidentiality). (January 2019)</p> <p>To demonstrate a commitment to maintaining data accuracy, updates to the above data and maps will be made on an annual basis, following the scheduled CRTC release of the Communications Monitoring Report and discussions with ISPs. (September 2018, and ongoing)</p>	

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54.	<p>For future broadband Internet funding programs, Innovation, Science and Economic Development should adopt a program design that:</p> <ul style="list-style-type: none"> maximizes the outcomes of public spending; and, minimizes negative commercial impacts on existing Internet Service Providers. 	<p>Agreed. The Connect to Innovate program was designed to maximize the outcomes and minimize the negative commercial effects on existing Internet Service Providers.</p> <p>Connect to Innovate brings backbone connections to underserved communities in areas that are often difficult to reach and that preclude private investment. Communities that would otherwise not benefit without targeted government support include the most expensive to connect, such as Arctic and Indigenous communities.</p> <p>A number of factors were considered to offer the greatest value and maximize outcomes. Cost was a significant factor when competing proposals targeted the same geographic area. The program did not support applications that overlapped the same area or those that would build in areas already served. Community benefits were also important.</p> <p>Innovation, Science and Economic Development Canada increased the total investment by leveraging other funding, allowing more projects to be funded. As a result, the program will connect almost 900 communities, three times its target, including an unprecedented number of projects that will benefit the North and Indigenous peoples.</p> <p>The Department will continue to collaborate with the Federal-Provincial-Territorial Connectivity Committee to articulate targets and expected outcomes for a national connectivity strategy and future programs, incorporating lessons learned from past broadband programs and findings of industry, Indigenous, and other stakeholder consultations.</p>	<p>Connect to Innovate is successful in achieving expected outcomes, including increasing the number of rural and remote communities with access to high-capacity broadband infrastructure, the number of institutions that have access to those networks, and the number of underserved households in rural and remote areas that have access to Internet.</p> <p>Future broadband programs are designed to meet the needs of Canadians and achieve government priorities, including maximizing outcomes of public spending and minimizing negative commercial impacts on existing service providers.</p>	December 2019	<p>The Department will consult with the Federal-Provincial Territorial Connectivity Committee on how to define maximum benefits that optimize public spending and minimize negative commercial impacts on existing ISPs. (Spring 2019)</p> <p>A key foundation to help minimize negative commercial impacts is the development of map and data coverage information (see milestones identified in response to recommendation 48) since it indicates areas well-served and currently underserved. In designing future programs, ISED will consult with stakeholder groups, particularly the private sector, to seek input on how to further minimize commercial impacts on existing Internet Service Providers. (Spring 2019, and ongoing)</p> <p>ISED will conduct a program evaluation of the Connecting Canadians and Connect to Innovate programs that will assess the extent to which these programs achieved their expected outcomes. The evaluation will also assess program implementation and delivery, including work with partners. The findings will help to inform future program design. (December 2019)</p>	<p>Director General, Telecommunications and Internet Policy Branch, Strategy and Innovation Policy Sector</p> <p>Director General, Connected Canada Branch, Digital Transformation Service Sector</p> <p>Director General, Audit and Evaluation Branch</p>

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60.	<p>In a timely manner, Innovation, Science and Economic Development Canada should inform stakeholders of the planned availability date, location, capacity, and price of the backbone to which they will have access.</p>	<p>Agreed. A key feature of the Connect to Innovate program is third-party access to publicly funded backbone infrastructure.</p> <p>To be eligible, applicants had to commit to provide open access to infrastructure funded in whole or in part by the program. Projects must be open to third parties for dedicated capacity purchases on a wholesale or retail basis.</p> <p>Open-access provisions are included in Innovation, Science and Economic Development Canada's contribution agreements to ensure that the benefits of public investments in broadband infrastructure can be realized by third parties, which may introduce competition and diversity in the marketplace for consumers.</p> <p>The Department has advised successful project proponents that information on access pricing will be made publicly available in a timely manner as contribution agreements are signed.</p> <p>Initial steps have already been taken as demonstrated by the improved National Broadband Internet Service Availability Map on the Department's website and by the data that has been shared on the Government of Canada's Open Data Portal. These vehicles provide further project information, such as new backbone services available through open access to projects funded by the program.</p>	<p>ISED provides Canadians with timely information about Connect to Innovate projects on its program website.</p> <p>Accurate, accessible and timely information pertaining to Connect to Innovate projects' Open Access service availability details, including planned date, location, capacity and price, is made publicly available in accordance with contribution agreements.</p>	March 2019	<p>Information concerning conditionally approved funding details and project descriptions is published on the Connect to Innovate Program website, linked to the searchable map (August 2017, and ongoing)</p> <p>To provide Canadians, policy and program officials and Internet Service Providers (ISP) with quick and easy, interactive access to key connectivity information, an online, searchable map showing ISP service availability, which respects ISP data confidentiality, was published. (September 2018)</p> <p>Now that the Connect to Innovate program has announced the majority of projects selected and a number of contribution agreements are in place, ISED will make available information for third party ISPs and stakeholders interested in accessing Open Access backbone services available from Connect to Innovate projects. Details will be published on the Connect to Innovate Program website and will include planned date, location, capacity and price. Details for signed projects will be published. (December 2018, and ongoing)</p>	Director General, Connected Canada Branch, Digital Transformation Service Sector

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					The first quarterly update will be published by the end of the fiscal year. Additionally signed projects or project changes will continue for the duration of the Connect to Innovate program. (March 2019, and ongoing)	
Spectrum Management						
77.	<p>To foster the provision of wireless Internet services in rural and remote areas, Innovation, Science and Economic Development should review the way it manages auctions of spectrum, including design and requirements such as:</p> <ul style="list-style-type: none"> • size of geographic areas; • deployment conditions; and, • subordinate licensing incentives for unused spectrum in underserved areas. 	<p>Agreed. Innovation, Science and Economic Development Canada has recognized the importance of wireless services for Canadians in all regions. The Department is committed to encouraging affordable telecommunications services to help bridge the digital divide, foster inclusivity, and support an innovative economy. The Department will continue to develop policies that encourage service into rural areas to ensure that all Canadians benefit from high-quality services, ubiquitous coverage, and affordable prices. These policies will continue to be developed in a transparent manner through consultation.</p> <p>The Department will continue to address the needs of rural and remote communities when developing licensing rules, including consideration of the geographic size of licences and measures to increase deployment outside urban areas.</p> <p>The Department will study unused spectrum in underserved areas and consider approaches to make that spectrum available when there is a demand.</p> <p>The Department will continue to make spectrum available through a variety of licensing methods, such as auctions and non-competitive licensing processes, and will make spectrum available for licence-exempt use.</p> <p>The Department will continue to foster mobile wireless Internet services in rural and remote areas. The Department's spectrum policies have enabled mobile broadband coverage to 98.5% of the population.</p>	<p>Increased access to high-quality Internet connectivity in underserved areas where wireless services are the only method of providing service.</p> <p>Spectrum deployed to meet the needs of rural Canadians, recognising that technology and expectations continue to change and evolve.</p>	March 2019	<p>A five-year Spectrum Outlook was published that includes plans to release more spectrum for mobile, satellite and licence exempt services to support broadband networks in all areas of Canada. The five-year plan also indicated an ongoing commitment to develop licensing policies that take into account the need for service provision in rural areas, including promoting rural connectivity through deployment requirements that go beyond the major urban areas. (June 2018)</p> <p>Consultations have begun on the 3500 MHz and additional mmWave band to make flexible use spectrum available for 5G services in all areas of the country. Considerations include measures to maintain existing fixed wireless and satellite services in rural areas. (June 2018)</p>	ADM, Spectrum and Telecommunications Sector

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					<p>Consultation on the development of smaller geographic service areas for spectrum licences was published; known as the Tier 5 Consultation. (December 2018)</p> <p>An auction of the 600 MHz band will be held that includes a 40% set-aside to allow regional service providers an opportunity to access spectrum so that they can increase network coverage. 600 MHz licenses will also have increased deployment requirements to ensure that the spectrum is used across the country, including rural areas. (March 2019)</p> <p>Consultations on deployment requirements for planned spectrum releases, such as 3500 MHz and mmWave, outlined in the Spectrum Outlook will be undertaken. (ongoing through implementation of the plan)</p> <p>For milestones pertaining to secondary markets, see key interim milestones for recommendation 81.</p>	
81.	<p>Innovation, Science and Economic Development Canada should foster secondary markets for unused spectrum in underserved areas by:</p> <ul style="list-style-type: none"> gathering additional information from rural and remote 	<p>Agreed. Innovation, Science and Economic Development Canada develops spectrum policies that promote the availability of reliable and affordable services across Canada, and support efficient functioning markets. As such, when developing these policies, the Department recognizes that, in some cases, rural and remote communities can only be served by having access to spectrum.</p>	<p>Improved access to spectrum and information on spectrum use for operators seeking to provide services to rural and remote areas.</p>	February 2019	<p>Preliminary outreach to small wireless Internet Service Providers was conducted to review issues related to access to spectrum including those related to secondary markets. (July to September 2018)</p>	ADM, Spectrum and Telecommunications Sector

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	<p>stakeholders about the challenges they face in accessing unused spectrum;</p> <ul style="list-style-type: none"> • reviewing spectrum licensing conditions that promote deployment and secondary markets; and, • providing public information that would help service providers in rural and remote areas seeking to access spectrum via sub-licensing. 	<p>While the Department does not mandate secondary market access to unused spectrum, it does encourage access through its rules regarding the transfer and division of spectrum licences. The Department has never denied an application for a subordinate licence to a small wireless Internet service provider.</p> <p>The Department has regional offices that are available to assist those seeking access to spectrum.</p> <p>The Department has been reaching out to a variety of wireless Internet Service Providers to better understand their spectrum use, as well as any challenges they have experienced accessing additional spectrum, including any impediments with respect to the secondary market.</p> <p>The Department will use this information to review any licensing rules or information gaps that are impeding access to spectrum by rural operators.</p>			<p>Outreach to a broader cross section of wireless Internet Service Providers and analysis of spectrum available in underserved areas will be expanded. (January 2019)</p> <p>Studies will be completed and a plan developed to address licensing rules or information gaps that are impeding access to spectrum by rural operators and to improve web-based information for wireless Internet Service Providers. (February 2019)</p> <p>For milestones pertaining to deployment requirements, see key interim milestones for recommendation 77.</p>	