The Institutional Development of Indigenous Broadband Infrastructure in Canada and the United States: Two Paths to “Digital Self-Determination”

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ABSTRACT For years, indigenous groups in Canada and the United States have argued for public policies to support the coordinated development of community-driven broadband infrastructure. Despite different national contexts and opportunities for policy implementation, case studies from Canada and the United States reflect similarities in the strategic approaches of two indigenous groups to argue for increased “digital self-determination.” However, the opportunities to express these arguments and the specific forms they take are shaped by the institutional contexts in each state. This article illustrates how efforts to articulate a strategy of “digital self-determination” are contingent on national contexts.

KEYWORDS Policy and law; Broadband policy; Broadband networks; Community networks; Indigenous/First Nations issues

For years, indigenous communities in Canada and the United States have worked to develop community-based broadband infrastructure. Local communities, regional tribal councils such as Keewaytinook Okimakanak (in Ontario) and the Southern California Tribal Digital Village, and national organizations such as the Assembly of First Nations and the National Congress of American Indians have all argued for federal government support of more coordinated, sustainable policy in this area. At
the same time, they have built up highly effective community-owned and -managed broadband networks. These strategies collectively work to build on the leadership of indigenous communities and to address existing deficiencies of broadband infrastructure policy—challenges explained as due in part to a market-oriented approach that fails to motivate private broadband infrastructure investment in rural, remote, and socio-economically marginalized communities.

This article employs a case study approach to compare and contrast the efforts of Native American groups in the United States and First Nations groups in Canada to develop nationally coordinated, community-owned and -managed broadband infrastructure. It argues that broadband infrastructure development is one way indigenous peoples exercise self-determination (Mignone & Henley, 2009). The approach employed analyzes processes of public policy formation. As Freedman (2008) writes: “[P]olicy practice is a decisive arena in which different political preferences are celebrated, contested or compromised” (p. 3). In many ways, the period between 2008 and 2010 was a key moment in the articulation of national broadband policy in Canada and the United States. However, this process needs to be critically examined in several ways. For example, although the number of “stakeholders” (interest groups involved in media policymaking processes) has qualitatively increased, Freedman (2008) reminds us that “there is no necessary relationship between the number of participants in a decision-making process and the eventual decision that is taken” (p. 85). Furthermore, much media policymaking remains hierarchical and centralized, and critics contend that putatively deliberative and formal mechanisms such as public consultations can be used to justify predetermined outcomes, rather than actively shape policymaking processes. That said, depending on the institutional frameworks available, the policymaking process is open to some degree of stakeholder participation. This article considers these dynamics by highlighting some strategies employed by indigenous communities in Canada and the United States to argue for broadband infrastructure that supports their “digital self-determination.”

In the context of broadband infrastructure development, Matear (2002) argued that while much policy is rooted in private investment and market forces, “an operational business case [for rural and remote broadband infrastructure] is possible given the right combination of strategic planning, demand aggregation, and public-private partnerships” (p. 465). A community-based strategic planning approach can enable more substantive inclusion in digital networks while avoiding the problems associated with “overcentralization” (p. 466; see also Falconer, 2009; Middleton & Crow, 2009; Tapia, Powell, & Ortiz, 2009). For example, Tapia et al.’s (2009) model of “hybrid public broadband” involves partnerships between local governments, industry, and community groups that balance ownership, management, maintenance, and use—an approach they argue shifts the focus of broadband development from a technological imperative to one focused on balancing social goals and economic development (Tapia et al., 2009). As Mignone and Henley (2009) write: “[U]ltimately, community control is what can guarantee that the power relations linked to ICT [development] will not derail it to the detriment of community members and organizations” (p. 140). Proponents of community informatics take a similar approach to technological development (Gurstein, 2007).
Community informatics holds that decentralized, local, participatory governance structures are better equipped to meet the needs of communities than centralized, hierarchical ones. Centralized development policies enable services that are uniformly and continuously available, and can achieve economies of scale. However, they can also be disempowering because “services are designed and developed centrally ... but with little real involvement of end users in the actual design, development or even delivery of the service” (Strachan, 2009, p. 8; see Alexander, 2005, for an example drawn from the indigenous context in Canada).

This article argues that an approach toward indigenous broadband development policy informed by community informatics can be described as a form of “digital self-determination.” The two case studies examined here offer examples of how the strategies undertaken by indigenous First Nations groups in Canada and Native American groups in the United States to articulate a national indigenous broadband policy follow a similar trajectory. In the period from 2008 to 2010, federal governments in both countries released stimulus funding to support broadband infrastructure development in unserved and underserved communities. This funding was accompanied by calls for a national broadband development plan—a process that resulted in the public release of a draft plan in the United States on March 16, 2010. As of early 2011, the Government of Canada is working on a similarly oriented plan, called the National Digital Strategy. Indigenous groups in both countries responded by arguing for more involvement in these national-level policies.

In the United States, the National Broadband Plan supported the formal incorporation of indigenous involvement (FCC, 2010b). During the months when the plan was being developed, Native American communities presented empirical evidence of deficiencies in existing broadband networks and federal policy frameworks. This evidence was marshalled in arguments for more substantive indigenous involvement in federal broadband policymaking, presented alongside evidence of the existing successes of community-based indigenous networks. Upon the draft plan’s release, the federal government solicited feedback from indigenous leadership. These formal consultations resulted in recommendations to reform the structure of the Federal Communications Commission (FCC) and to provide targeted funding and policy support for community-based indigenous broadband infrastructure, governance, and administration.

The situation is very different in Canada. As of early 2011, Indian and Northern Affairs Canada (INAC) is working on an Aboriginal connectivity strategy, while other federal departments including Industry Canada are developing a comprehensive National Digital Strategy. At present, there does not appear to be any formal direct link between the two proposed strategies (for example, no National Digital Strategy documents include any mention of an Aboriginal connectivity strategy). Upon announcing the National Digital Strategy, the Government of Canada announced a national consultation “aimed at building consensus among governments, the private sector, academia and the Canadian public in developing a digital economy strategy for Canada” (Industry Canada, 2010a). However, in contrast to the approach taken in the United States, these national consultations subsumed specific and diverse First Nations, Inuit, and Métis concerns under the general rubric of “rural and remote” communities.
However, preceding these developments, First Nations leaders, scholars, and policymakers in Canada utilized other public forums to present arguments for more targeted, coordinated, substantive involvement in national broadband development policy (O’Donnell, Milliken, Chong, & Walmark, 2010a). This article focuses on one such intervention: at the third Aboriginal Policy Research Conference (APRC) held March 9-12, 2009, in Ottawa, panels of presenters from research institutions, First Nations technology organizations, and First Nations political organizations argued for more sustained federal support in the ongoing development of community-based First Nations broadband networks. (These papers were subsequently published in a book; see White, Peters, Beavon, & Dinsdale, 2010.) Demonstrating empirical evidence highlighting how these networks are administered by First Nations communities, participants argued that the federal government can build on existing successes by supporting a national First Nations broadband infrastructure. This case study and the case study drawn from the development of the National Broadband Plan in the United States are presented to highlight similarities (and differences) between the two national contexts.

Employing a qualitative discourse analysis of selected publicly available academic literature, policy documents, government and NGO reports, press releases, and news articles, this article summarizes the strategies employed by indigenous groups in the two cases. It considers the interaction between actors, the institutional structures they operate within, and the objectives they pursue. Both case studies demonstrate that indigenous groups presented arguments for more substantive involvement in national broadband development policy. However, existing opportunities to put these proposed reforms into practice differ between Canada and the United States. These differences, shaped by the existing relationships between indigenous and federal governments in each country, resulted in different expressions of “digital self-determination.” It is suggested that information about how the National Broadband Plan developed in the United States might be useful to community activists and policymakers engaged in similar activities in Canada.

“Digital self-determination” and indigenous community development
Communication policies play an important role in shaping broader freedoms, rights, and community development. Broadband infrastructure can be framed as a component of indigenous self-determination (Mignone & Henley, 2009). The general consensus among government, academics, and industry commentators is that broadband infrastructure plays an important role in community development (see, for example, Alexander, Adamson, Daborn, Houston, & Tootoo, 2009). Benkler writes that “high capacity networks are seen as strategic infrastructure, intended to contribute to high and sustainable economic growth and to core aspects of human development” (Benkler, 2010, p. 11; see also Matear, 2002; O’Donnell et al., 2010a). Furthermore, indigenous communities can access unique benefits from broadband infrastructure. Falconer points to the role of broadband in sharing culturally specific languages, traditions, and cultures as well as in delivering health and education services (Falconer, 2009; see also McMahon, O’Donnell, Smith, Woodman Simmonds, & Walmark, 2010; O’Donnell, Molyneaux, Gorman, Milliken, Chong, Gibson, et al., 2010b). In the context of Canada’s
First Nations communities, the federal government–funded First Nations SchoolNet (FNS) program and services like the Keewaytinook Internet High School (KiHS) offer concrete examples of projects that have “enhanced the educational experience of First Nations students, [and] provided them with valuable skills and capabilities” (O’Donnell et al., 2010a, p. 5; see also INAC, 2009). Mignone and Henley (2009) argue that community-based networks provide greater access to services like education, training, and healthcare; increase community capacity and development; and increase the ability of communities to interact with external organizations like government agencies. In a case study of five Aboriginal community networks in Canada (K-Net in Ontario, Métis Connectivity in Alberta, Qiniq in Nunavut, the Ktunaxa Nation Network in B.C., and Urban Aboriginal Initiatives in Winnipeg, Manitoba), they found “the ‘ownership of the means of production’ (in our case the ownership of the ICT networks) clearly relates to increased community social capital” (Mignone & Henley, 2009, p. 138).

These development benefits are generally accepted by the federal governments of both Canada and the United States in numerous policy documents (see, for example, CRTC, 2010a, and FCC, 2010c). In the context of indigenous self-determination, these benefits can be viewed as components of community-based governance. As Alexander writes:

Culturally-informed and community-driven ICT strategies can facilitate capacity-building within community organizations and can empower communities in ways that assist them in achieving their social cultural, and economic objectives. (Alexander, 2005, p. 4, emphasis in original; see also McMahon et al., 2010)

Despite widespread acknowledgment of the importance of broadband infrastructure to community development, and the ongoing successes of innovative, community-based projects, indigenous communities in both Canada and the United States have historically faced a deficiency of broadband infrastructure. This deficiency is exacerbated by socio-economic factors: in general, the lower the socio-economic position of a household, the less likely they are to access broadband Internet (Cooper, 2010). The problem is potentially worsening: in both Canada and the States, telecommunications policies have moved toward a greater reliance on private capital to fund the construction and maintenance of broadband networks, despite evidence that highlights pricing mechanisms and infrastructure costs as a primary source of growing “digital divides.” Critics argue that rural and remote areas, and areas of low socio-economic status, are unattractive locations for profit-oriented commercial Internet service providers to build and maintain infrastructure, given the low return on investment over the short term (Cooper, 2010; CRTC, 2010a; Mignone & Henley, 2009). Given these challenges, First Nations and Native American communities in Canada and the United States mobilized to argue for a national broadband development policy that addresses their unique needs, by supporting and building on already-existing community-based networks. Examples of these strategies are now explored in detail.

First Nations–driven broadband development in Canada

Canada’s National Digital Strategy

An editorial in one of Canada’s national newspapers, the Globe and Mail, highlighted the importance of broadband infrastructure for economic development and the deliv-
ery of public services, and argued that new policies, a new vision, and more federal funding are required (“Canada’s Broadband Lag,” 2010). This editorial is one example of calls from government agencies, private enterprise, and civil society for a new approach to broadband policy (see also CRTC, 2010a, section 4.3). However, such a strategy faces a legacy of unsuccessful past attempts to provide universal broadband service in Canada:

Canada was once a leader in broadband provision, but the shortsighted design of the 1990s policies meant that many providers pulled out of less financially viable regions once government subsidies were no longer available. In addition, funding for projects which supported education and digital inclusion projects were cut. (Tapia, Powell, & Ortiz, 2009, p. 357)

Canada has slipped from its position as a global leader in broadband connectivity, and now “broadband in Canada is relatively expensive as compared with other countries” (CRTC, 2010a, Appendix 6). Even critics who dispute this conclusion concede that there are “genuine problems of [access for] low-income and rural residents” (Waverman & Dasgupta, 2010). According to federal government figures, although 94% of Canadian households have broadband access, in rural and remote areas (where most indigenous communities are located) this number falls to 78% (Fiser, 2010; see also O’Donnell et al., 2010b).

The Canadian government has long worked to develop a national broadband policy. In 1989, the Supreme Court of Canada affirmed federal jurisdiction over Canadian telecommunications. By the late 1980s, the Internet was available in Canada, and in 1994, the federal government’s Information Highway Advisory Council set out to “build the highest quality, lowest cost information network in the world” (quoted in Tumin, n.d., p. 7). At this time the federal government piloted the SchoolNet program, later accompanied by the Community Access Program (CAP), which provided funding for community-owned and -operated sites across the country (Tumin, n.d.; see also O’Donnell et al., 2010a). The Connecting Canadians strategy united these initiatives but was criticized as under-resourced and reliant on short-term, ad hoc funding (Alexander et al., 2009). In terms of connectivity programs targeted to indigenous communities, Canada’s Connecting Aboriginal Canadians initiative combined two federal programs—Gathering Strength and Connecting Canadians—and partnered government with national Aboriginal organizations to develop the Aboriginal Canada Portal (O’Donnell et al., 2010a). This initiative sought to highlight the unique needs of indigenous communities: “[I]t became evident that cultural consideration is as important as improved technological infrastructure, and that governments need to tailor their support for the different approaches taken by Aboriginal people to preserve their diverse cultures” (O’Donnell et al., 2010a, p. 4; see also Alexander et al., 2009; McMahon et al., 2010). However, substantive recognition of cultural awareness in actual program delivery has been criticized (see Alexander, 2005).

In following years, Canada’s policy recognition of specific indigenous contexts in broadband development became subsumed under the general rubric of “rural and remote” development. At the same time, the federal government’s nationally coordinated broadband strategy slowed—Geist writes that “industry watchers point to the
late 1990s as the last time Canadian digital policy was driven by a cohesive plan” (Geist, 2009, para. 3). In June 2009, the government announced Industry Canada would begin developing a National Digital Strategy, and the department hosted a Digital Economy Conference. The federal government’s 2009 budget also allocated $225 million over three years to Industry Canada’s Broadband Canada: Connecting Rural Canadians program (Industry Canada, 2009). The first round of 52 funded projects will bring broadband access to an estimated 169,000 households (Industry Canada, 2010c). Furthermore, in August 2010, the CRTC approved Telecom Decision CRTC 2010-637, which calls for telephone companies to spend the money in their deferral accounts to invest $421.9 million to expand broadband Internet service to 287 rural and remote communities, many of which are First Nations. Any remainder funds are to be rebated to existing customers who live in non-high-cost serving areas (CRTC, 2010b). Yet at the same time, the government has twice cut, and then reinstated, funding to CAP, while other federal funding programs, like First Nations SchoolNet, continue to receive short-term, restricted funding that is renewed on an application approval basis, and suffer ongoing budget cuts.

Shortly after announcing the National Digital Strategy, Industry Canada opened public consultations for “feedback from all interested parties on priorities and targets” (Industry Canada, 2010a, para. 8). One of the consultation’s five discussion themes was “Building a World-Class Digital Infrastructure,” which included mention of rural and remote communities (Industry Canada, 2010b, p. 2). However, nowhere does this initial consultation paper refer to the unique needs of on- and off-reserve First Nations, Inuit, and Métis communities (Industry Canada, 2010c). This oversight fails to consider the conclusions of earlier policy evaluations of programs such as the Aboriginal Canada Portal (Anderson, 2005). Furthermore, it represses the long history of successful indigenous community involvement in communications infrastructure development, which stretches at least as far as the Wawatay Native Communications Society’s 1974 efforts to establish a community radio system (O’Donnell et al., 2010a; see also Alia, 2010; Roth, 2005). While INAC recently announced plans to develop an Aboriginal connectivity strategy, this process appears discrete from the National Digital Strategy, and also does not yet appear to offer opportunities for indigenous groups to participate through targeted, formal consultations. In sum, years of accumulated evidence demonstrating the unique contexts of indigenous communities have been conflated under the general rubric of “rural and remote communities” in the National Digital Strategy, and the Aboriginal connectivity strategy does not yet include formalized plans for targeted consultations with indigenous groups. These developments arguably limit the potential of these two national strategies to support substantive indigenous involvement in communications development policy (McMahon et al., 2010).

**Existing structures of indigenous involvement in Canadian broadband policy**

The concept of “digital self-determination,” that is, of the role that community control of communications infrastructure development might play in affirming the broader self-determination of indigenous peoples, can be linked to past experiences in communications policy development in Canada. Alexander et al. (2009) write that “from
the outset of the digital era, Indigenous peoples in Canada and around the world have recognized the potential of information and communication technologies to alter power relations” (p. 226; see also Alia, 2010; First Nations Summit, 2004; Mignone & Henley, 2009). In the absence of a coordinated national strategy for indigenous broadcasting development, community-based groups used short-term government funding to build self-organized communications projects, which were used as “accumulated evidence of project success [that] became the basis for a policy dialogue between First Peoples and the federal government” (Roth, 2005, p. 122). This strategy was grounded in the country’s special relationship between the federal government and the indigenous populations, as reflected in section 35 of the 1982 Constitution Act, and affirmed in treaties and by the Supreme Court of Canada. Indigenous peoples drew on this relationship when arguing to enshrine formal support of an indigenous broadcasting system in the 1991 Broadcasting Act:

First Peoples wanted an aboriginal broadcasting policy because it would constitute a landmark in Northern communications development—tantamount to a formal recognition of the distinct status of First Peoples. (Roth, 2005, p. 123)

The aim of this strategy was “not just better representation in mainstream broadcasting but the transfer of power and control over broadcasting to their own communities” (Roth, 2005, p. 13). A coalition of researchers, consultants, and lobbyists developed a body of empirical evidence that supported claims for broadcasting access rights and fairer and more equitable distribution of services. This was accompanied by efforts at “identifying loopholes and locating gaps in governmental policy discourses into which arguments for Northern broadcasting access rights could be inserted” (p. 124). This was one phase “in the Northern television policy-ing process culminating in the enshrinement of aboriginal broadcasting in the Broadcasting Act of 4 June 1991” (p. 124).

In terms of broadband infrastructure policy, the CRTC is the federal agency responsible for the regulation and development of telecommunications policy in Canada. As guided by the Telecommunications Act (1993), the CRTC aims to strike a balance between market forces and “essential services” supported by public financing. In recent years the CRTC’s scope of intervention has been reduced, and “unlike for telephone services, no regulatory mechanism exists to force Internet Service Providers (ISPs) to provide services in any particular area of the country” (O’Donnell et al., 2010a, p. 2). But a major challenge remains: the need to provide services to economically less attractive market segments, such as the rural and remote communities where many of Canada’s indigenous peoples live. Pointing to the failure of a solely market-based approach in these communities, the CRTC notes:

It is clear that market forces have not been sufficient to drive affordable broadband access into rural and remote parts of Canada nor to ensure affordable broadband access for lower-income Canadians; thus, regulatory approaches could be considered. These approaches could include expanding the basic service objective to include broadband access and introducing an obligation to provide broadband access to all Canadians. (CRTC, 2010a, Appendix 6)
As noted earlier, INAC’s recently announced Aboriginal connectivity strategy does not yet include mention of formal consultations, and initial targeted consultations concerning the National Digital Strategy did subsume specific indigenous concerns and contexts under the broader umbrella of rural and remote access (McMahon et al., 2010). Communities can apply for funding support for their broadband networks, but they compete for a limited pool of project funding, and applications are approved or rejected on a short-term, ad hoc basis (see O’Donnell et al., 2010a).

Despite this restrictive framework, Canada’s First Nations communities have worked to articulate a national broadband development policy. As was the case with broadcasting, this national strategy is structured in part by the relationship between First Nations communities and the federal government. But unlike in broadcasting policy, at present there are no specific formal legislative provisions to ensure indigenous involvement in telecommunications policy. Although some ad hoc, project-based federal funding programs do specifically target First Nations communities (for example, see Infrastructure Canada, 2009), the CRTC has not released policy statement like the Federal Communication Commission’s Statement of Policy on Establishing a Government-to-Government Relationship with Indian Tribes to guide policy formation (FCC, 2000; to be discussed later). Instead, the Canadian government generally supports First Nations self-determination in areas such as education, a relationship expressed, for example, in this quote:

[The] federal government is required, within their jurisdictional and treaty responsibilities, to provide quality and equitable education opportunities for all First Nation students. This responsibility includes the need to adequately fund the provision of the required broadband infrastructure that is capable of supporting access to ICT and various broadband applications. (T. Whiteduck, 2009, p. 4, emphasis added)

Given these circumstances, “First Nations have mobilized, in response to their socioeconomic conditions, through political and community projects to push their [broadband] development agenda” (McKelvey & O’Donnell, 2009, p. 2). Mignone and Henley (2009) found that such an approach plays a role in strengthening a community’s self-determination:

Legislation that favours large private or public ICT corporations over community-based profit or non-profit entities, project-based funding sources that leave community networks at the mercy of government bureaucratic whims, public connectivity infrastructure investments particularly lacking for rural and remote areas, are … [linked to] particular aspects of the broader notion of Aboriginal self-governance. (p. 140)

As the federal government moves toward developing the National Digital Strategy and Aboriginal connectivity strategy, opportunities for more formal recognition of a broadband plan that affirms indigenous self-determination may become available. The next section explores one example of a concentrated effort to achieve this goal through a case study of the 2009 Aboriginal Policy Research Conference.
2009 Aboriginal Policy Research Conference: Articulating a national First Nations broadband plan for Canada

Organizations representing some of Canada’s First Nations presented arguments for a more supportive federal approach to indigenous broadband policy at the Aboriginal Policy Research Conference in March 2009 (see Appendix 1 for a list of all papers). At the conference, scholars, policymakers, and representatives from First Nations organizations, including the national-level Assembly of First Nations, presented a series of papers about First Nations broadband development in Canada. They demonstrated empirical evidence of discrepancies of broadband access and highlighted examples of successful community-based networks. Authors highlighted the need for community control over First Nations broadband development policy—reflecting arguments for indigenous “digital self-determination.”

These arguments are rooted in recognition of the success of existing indigenous broadband networks. For example, at the national level, the Assembly of First Nations (AFN) signalled its commitment to broadband connectivity and access to ICTs for First Nations communities in five resolutions (as of 2009) passed at annual general assemblies (O’Donnell et al., 2010a). Six Regional Management Organizations (RMOs) that exist at the provincial/territorial level are involved in broadband infrastructure development and support community services in areas such as education and health as well as residential Internet access. Fiser highlights the community-based administrative approach of the RMOs, writing that “each RMO is a First Nations based organization with strong ties to the constituencies of internet users in the regions they serve” (Fiser, 2010, pp. 5-6). In the past, RMOs were funded by INAC’s First Nations SchoolNet (FNS) program, which is rooted in education policy. Indigenous leaders argue that if FNS is supported and has its mandate extended, it can form the basis of federal contributions to a national indigenous broadband network (O’Donnell et al., 2010a).

The papers presented at the Aboriginal Policy Research Conference summarize the potential of this model of “digital self-determination.” For instance, a position paper from the AFN’s Economic Partnerships Secretariat argues that community-based networks should form the basis of a national First Nations broadband strategy termed the “e-Community ICT model.” The five themes encompassed in the strategy highlight its focus on community development: First Nations capacity development; First Nations connectivity; human resources development; information management; and service delivery and partners. The AFN leadership has long demonstrated its support of such a holistic policy: almost a decade ago, AFN Grand Chief Matthew Coon Come was quoted as calling for federal government support of a community-based First Nations broadband network (Delio, 2001; see also O’Donnell et al., 2010a). More recently, July 2008 saw the First Nations Chiefs-in-Assembly unanimously passed Resolution 19/2008, which called for a National Framework for an e-Community for First Nations to “enable the efficient and effective provision of the range of educational, health and other services to and in First Nations communities” (Strachan, 2009, p. 1).

At the regional level, the national plan would be administered by First Nations–administered regional IT networks. One example of these networks is the RMOs historically funded by the First Nations SchoolNet program. Highlighting their focus on
self-determination in community development, the conference papers present evidence of the services RMOs provide: from managing video conferencing facilities to supporting education and economic development. A national strategic framework presented to the AFN Chiefs Committee on Economic Development in May 2008 highlighted the FNS program as a funding model for a national initiative. The federal government recognizes the success of FNS, as reflected in a 2009 report from INAC that notes the RMOs' community-based administration of the program (INAC, 2009). For example, one of the RMOs, the Keewatinook Okimakanak tribal council's network K-Net, is an internationally recognized model of community-based broadband development:

K-Net stands for Kuhkenah Network—an Oji-Cree word that means everyone-everywhere—and this is a core value for our organization. This value is key to the development of good partners—those that are interested in making broadband access affordable and responsive—those that show respect for community needs. (Carpenter, 2009, p. 1; see also Fiser, Clement, & Walm, 2005; McKelvey & O’Donnell, 2009)

The conference papers also critique the existing federal policy framework. Specific recommendations argue for more substantive indigenous involvement in government policymaking institutions. Institutional reform may help achieve goals such as more stable, predictable funding, coordinated delivery of public services like education and health, and increased participation by local and regional First Nations authorities. For example, the federal government might partner with First Nations regional IT organizations such as the RMOs, a goal that can be institutionally supported through an annual gathering of First Nations, government, and ICT representatives to identify best practices, assess progress, and identify knowledge gaps (T. Whiteduck, 2009). The AFN also called on the federal government to incorporate First Nations governments in policymaking, support strong linkages with the AFN Chiefs Committee, ensure federal coordination among departments to utilize existing community networks and services, and build partnerships with other national and international indigenous peoples. “First Nations must be part of the program and policy development process and decision making processes. The clear objective is to ensure sustainable systems are built, where First Nations [have] control” (J. Whiteduck, 2009, p. 11). These arguments illustrate one example of indigenous self-determination in broadband development policy.

The paper series also notes the need to secure sustainable federal government funding support. This follows a long-term decrease in the FNS program's annual funding levels, which dropped from $45 million in 1996 to $25 million in 2004 to $6.68 million in 2008/09 (INAC, 2009). Based on evidence of its success, and linked to the AFN’s strategy, FNS was presented as a source of sustained funding for a national indigenous broadband network administered by regional First Nations IT networks, such as the RMOs. Finally, the paper series argues that at the community level, the federal government must support sustainable funding for local indigenous broadband networks. While K-Net’s membership has grown from five to 60 remote First Nations communities between 2000 and 2008, it is unable to continue growing given its reliance on short-term, project-based funding and administrative uncertainties (Strachan, 2009). Supporters argue that a longer-term “program” funding model is required.
Even without federal government support, First Nations communities in Canada are developing their own national First Nations broadband strategy. They presented this strategy at the 2009 Aboriginal Policy Research Conference, demonstrating how such a broadband network might be developed at the national, regional, and local levels. They offered evidence of the efficient, effective use of federal project funding in the creation and administration of an already-existing network infrastructure that supports broader development goals in areas such as education and health. However, to implement this strategy they argued that the federal government must reform existing policy frameworks to better recognize indigenous self-determination in broadband policymaking as well as provide more supportive funding mechanisms.

An opportunity to address these issues has become available through the creation of the National Digital Strategy and Aboriginal connectivity strategy. However, in their early stages these two strategies have yet to provide specific recognition of the unique needs of First Nations, Inuit, and Métis communities, instead subsuming them under “rural and remote” communities or not yet announced plans to incorporate the formal participation of indigenous groups. This oversight exists despite general recognition by the federal government of First Nations self-determination, as reflected in instruments such as the 1982 Constitution Act, in treaty agreements, and in Canadian case law. Furthermore, the Government of Canada recognizes self-determination in broad casting legislation, as reflected in the 1991 Broadcasting Act (Roth, 2005).

Although it appears the federal government may be moving toward considering indigenous broadband development through INAC's recent plan to develop an Aboriginal connectivity strategy, at the time of writing this strategy did not include formal plans to engage in targeted consultations with indigenous communities (McMahon et al., 2010). Furthermore, it does not appear to link to the parallel project to develop a National Digital Strategy, as evidenced by a lack of recognition of the specific needs of indigenous communities in early public consultations. As the Government of Canada moves toward developing these two national-level broadband development strategies, one potential source of inspiration may be the United States, which has already recognized and begun implementing similar policy reforms through the early stages of its National Broadband Plan. These experiences may be of assistance to parties in Canada engaged in similar work.

Native American broadband development in the United States

Development of the National Broadband Plan in the United States shares several parallels with the policymaking process in Canada. Indigenous groups, in this instance Native American groups, similarly faced challenges with regards to the funding and development of community broadband infrastructure. They proposed solutions to these challenges during the articulation of a national-level broadband policy. As in Canada, indigenous communities in the United States experience deficiencies in broadband infrastructure, a condition that recently came to light after years of government and industry claims of substantive access (Dunbar, 2010). Studies from Benkler (2010), Cooper (2010), and the FCC (2010b) all note general patterns of low and decreasing broadband penetration in some U.S. regions. Benkler found that “broadband performance in the past decade has declined relative to other countries and is no better than
middling” (p. 8; see also Cooper, 2010; Tapia et al., 2009). These disparities are particularly acute on Tribal lands, where many indigenous communities not only lack broadband infrastructure, but also basic telephone service: “[B]y virtually every measure, communities on tribal lands have historically had less access to telecommunications services than any other segment of the population” (Morris & Meinrath, 2009, p. 4; see also FCC, 2000, p. 1). As of 2009, broadband deployment in “Indian Country” had a penetration rate of less than 10% (Morris & Meinrath, 2009, p. 5).

Also similar to Canada, critics explain this lack of access as the failure of market-based policies to deliver universal service. Despite a focus on market forces, the 1996 Telecommunications Act instructed the FCC to provide regular reports as to whether advanced telecommunications services are being made available to all Americans in a timely fashion. There remains considerable debate as to whether this goal is being achieved with regards to broadband (FCC, n.d.; see also Atkinson, 2007; Tapia et al., 2009). Recent evidence of an increasing “digital divide” resulted in renewed calls for public support of broadband infrastructure development:

Broadband is unique in that the social returns of broadband investment exceed the private returns to companies and consumers. Therefore, market forces alone will not generate the societally optimal level of broadband in the foreseeable future. (Atkinson, 2007, p. 145)

A 2009 workshop titled Diversity and Civil Rights Issues in Broadband Deployment and Adoption identified that “structural poverty, continuing segregation, unequal opportunities in education, and discrimination in financial markets can all have a profound effect on access to broadband” (FCC, n.d.). These problems are even more pronounced for indigenous communities: “no critical infrastructure has come to Tribal lands without significant federal involvement, investment, and regulatory oversight” (Pruner, 2009, p. 4; see also Morris & Meinrath, 2009). To address these challenges, commentators argued that the federal government must promote targeted policies that encourage development in economically unattractive regions, including on Tribal lands. As in Canada, these arguments are supported by empirical evidence of broadband’s ability to stimulate community development as well as the success of an approach rooted in community-based broadband administration or “digital self-determination.”

Existing structures of indigenous involvement in U.S. broadband policy

At the federal level, the U.S. government subsidizes Internet access to public institutions like schools, healthcare providers, and libraries through the Universal Service Fund, which is administered by the Federal-State Universal Service Joint Board. The Federal Communications Commission is the federal agency responsible for guiding broadband development policy. In an examination of rule-making procedures at the FCC, Gangadharan (2009) found that policymaking procedures aim to balance public participation with agency discretion. The FCC is compelled to engage with opinions, facts, and arguments presented outside the official rule-making system, such as those presented by civil society groups such as the Media Action Grassroots Network (MAG-Net). Specific instruments of public participation include formal hearings and committees formed to guide agency officials in deliberations.
As in Canada, the release of the federal government’s draft National Broadband Plan was accompanied by formal public consultations. Indigenous communities, who had long been engaged in attempts to secure increased involvement in broadband policymaking, seized upon these opportunities. However, unlike in Canada, their efforts were grounded in a clearly defined “government to government” relationship between the federal government and tribal councils with regard to telecommunication policy. The FCC’s Statement of Policy on Establishing a Government-to-Government Relationship with Indian Tribes (2000) includes specific reference to indigenous self-determination in communications policy. It states that the FCC recognizes Indian tribes as “domestic dependent nations” that “exercise inherent sovereign powers over their members and territory” (FCC, 2007, p. 18). According to the FCC, the purpose of the Statement of Policy is to empower sovereign indigenous governments to address problems such as geographic isolation, lack of information, and economic barriers to telecommunications access (FCC, 2007). The statement was created to respond to “the many requests of Indian leaders for a statement of policy that recognizes Tribal sovereignty, federal trust principles, and the importance of agency consultation with federally-recognized Indian Tribes” (FCC, 2000, p. 2). In short, when applied to the broadband context, this Statement of Policy can be seen as formal recognition of “digital self-determination.”

At the program level, this declared relationship between Indian tribes and the FCC is institutionally expressed in Indian Telecommunication Initiatives (ITI). Through ITI programs, the FCC must consult with Tribal councils prior to implementing regulatory actions or policies that affect them, their lands, or their resources. Despite their existence, these consultative processes have been critiqued by authors who argue they are more symbolic than substantive: “[F]or decades, Native Americans have largely been ignored by federal telecommunications policy and underserved by telecommunications providers” (Morris & Meinrath, 2009, p. 4). Critics also argue that a highly complex regulatory environment restricts attempts by service providers to construct facilities on Tribal lands, given requirements to follow federal, state, and local telecommunications regulations and laws (FCC, 2007).

Despite these challenges, there are examples of indigenous communities exercising their “digital self-determination” by building and administering local and regional community-based broadband networks, such as the Southern California Digital Village. Similar to the situation in Canada, to finance these networks, communities leveraged an array of funding opportunities from diverse sources, including corporate grants and government agencies. Although funding came from external sources, control of these networks remained with the communities they served, an administrative model that has contributed to their success while strengthening claims to indigenous self-determination. According to Morris and Meinrath (2009):

‘Tribal centric’ business models have the greatest chance for sustainability, in terms of both adoption and ultimate profitability. Demand aggregation planning of a special and locally coordinated nature is required, regardless of who owns or deploys the networks. As historical and geo-political federal enclaves, Tribal lands are communities with their own unique institutions and opera-
tions. As sovereign local governments, Tribes are uniquely and intimately knowledgeable of their own communities and needs. (p. 38)

Upon the release of the National Broadband Plan, indigenous communities argued that they needed more coordinated, sustainable federal support of broadband infrastructure development. For the purposes of this case study, their efforts are captured in the activities of two groups: Native Public Media and the Native American Broadband Association.

**Native Public Media**

In November 2009, Native Public Media (NPM), a non-governmental organization focused on developing public sector Native broadcasting, published a report (in partnership with the New America Foundation) titled *New Media, Technology and Internet Use in Indian Country*. NPM’s report offered empirical evidence of successful broadband development and administration in indigenous communities, and it put forward policy proposals aiming to ensure that federal stimulus funding and policymaking structures support indigenous communities. The report frames the opportunities made available through the stimulus funding and National Broadband Plan as aspects of indigenous self-determination:

> Together with an increasing recognition of the importance of universal access to digital communications and technology, these factors provide an enormous opportunity to bridge the historical and persistent Native American digital divide. In order to take advantage of these opportunities, local tribal communities need to devise ways to increase information opportunities that will complement the Nation building efforts of American Indian Nations and Alaska Native Villages in the United States. (Morris & Meinrath, 2009, p. 5, emphasis added)

To achieve these goals of “Nation building,” the NPM report articulates a three-part strategy. First, it provides a body of empirical research that decision-makers can draw on (recalling Gangadharan’s 2009 discussion of FCC rule-making procedures). According to the authors, the report “contains the first valid and credible data, gathered from the ground up from Native Nations” (Morris & Meinrath, 2009, p. 6). Given the historical dearth of empirical research in this area, NPM argued that indigenous communities had a relatively weak voice in broadband and media policymaking. One of the report’s goals was to bridge this research gap. Second, the NPM proposed changes to the wording for funding applications to better recognize specific challenges faced by Tribal entities. For example, early program requirements failed to consider restrictions on the ability of Tribal governments to access funding. Since Tribal budgets are subsumed under federal spending limits, indigenous communities often lack access to needed capital and credit. Tribes also lack direct access to program funding and administration. NPM also argued that the federal government should recognize Tribal approval of broadband projects on Tribal lands. In these ways, the NPM argued that applications for federal funding for broadband development projects must be reformed to recognize the unique contexts of indigenous communities. Third, the NPM report put forward a number of policy recommendations aimed at reforming the structure of indigenous participation at the FCC. They proposed a Tribal Broadband Plan within...
the National Broadband Plan that specifically targets the needs of indigenous communities—a plan to “define a strategy for spurring deployment and adoption of digital communications and broadband on Native Lands” (Morris & Meinrath, 2009, p. 37). These recommendations are rooted in a formal recognition of the government-to-government relationship between tribal councils and the federal government:

Placing Tribes at the center of the process on Tribal lands, and implementing actions that prioritize Tribes in planning, regulation and deployment is a necessary first step in achieving successful and enduring solutions to the deplorable and long standing lack of communications technologies in Tribal communities nationwide. (Morris & Meinrath, 2009, p.38, emphasis added)

To support indigenous self-determination, the report argues the FCC should provide more inclusive government-to-government consultations in broadband policymaking. For example, a formal joint Native Nations/FCC Broadband Taskforce would help the FCC work directly with Tribal leaders, a process essential for federal government policymakers to better understand “the particular obstacles, challenges and best practices to creating communications solutions throughout Native lands” (Morris & Meinrath, 2009, p. 40). A Tribal Office, and seats on the Federal State Joint Board on Universal Service for Tribal Government Representatives, would allow representatives from indigenous communities more effective, high-level involvement in broadband policy development. These new avenues for participation would be supported by new funding mechanisms, such as the Universal Service Enhanced Tribal Lands Broadband Program.

Native American Broadband Association

The recommendations by NPM were accompanied by those submitted by the Native American Broadband Association (NABA). NABA was formed through an October 2009 resolution put forward by the National Congress of American Indians (NCAI) to provide individual tribes with information to understand broadband issues, to apply for broadband funding grants and loans, to help find technology partners, and to act as an advocate for a national-level indigenous broadband development strategy (Native American Broadband Association, 2009). Similar to the NPM, NABA focused its efforts on the administration of federal stimulus funding allocations and the development of the National Broadband Plan, arguing for the need to consider the unique contexts of indigenous communities. It submitted comments to the FCC in November 2009 through a formal channel made available upon the release of the draft National Broadband Plan. Like NPM, its arguments are based on the principle of indigenous self-determination and on empirical evidence of existing discrepancies in broadband access. It similarly argues that the FCC must reform existing policy institutions and funding mechanisms and build on the success of existing community-based network infrastructures: “[T]ribes have shown that when they run their own telecommunications services, they run at a lower cost to the customer, their tribal members, and have a greater penetration rate” (Pruner, 2009, p. 3).

NABA also critiqued existing funding allocation processes, arguing that tribes are unduly penalized and suffer “inherent inequities” due to their status as sovereign Indian tribes. Tribes cannot mortgage their lands to get third-party loans, and so suffer from a lack of access to capital. Their populations are typically too low to qualify for extra
consideration of program funding. They also often face substantially more expensive projects given the lack of basic telecommunications infrastructure. Due to these conditions, the NABA proposed that the government set up a unique funding option specifically designed for “tribes that are applying to provide broadband services on their own tribal lands” (Pruner, 2009, p. 3). Second, NABA argued for several changes to the language employed in the proposed National Broadband Plan. For example, the term “remote” should be redefined so that “remoteness is defined not by distance from a town but by the availability of things such as electricity, phones, paved water and water supplies” (Pruner, 2009, p. 7). These proposals reflect the need to consider the specific contexts of indigenous communities. Finally, NABA argued that the FCC should support indigenous consultation by improving outreach and consultation activities so they are better suited to the needs of indigenous communities. Pointing to a lack of participation from most tribes as evidence of problems with current practices, NABA proposed that workshops be hosted by Native Americans and located in areas close to their communities, such as at Oklahoma University (Pruner, 2009, p. 7).

Indigenous digital self-determination in U.S. national broadband policy

To date, it appears these lobbying efforts on the part of NPM and NABA have been successful. As Nagesh (2010) reports: “[A] new office at the Federal Communications Commission will work to increase the adoption and availability of broadband and other communications technologies among Native American communities” (para. 1). That said, such successes must be considered in terms of the limits of policymaking. As discussed earlier, Freedman (2008) argued that the media policymaking process is subject to a variety of institutional, ideological, financial, and political constraints. In the case of broadband development policy in the United States, these constraints include political opposition from corporate Internet providers and members of Congress. These parties questioned the FCC’s jurisdictional authority over Internet development and its subsequent ability to implement the National Broadband Plan, given the Bush administration’s classification of the Internet as an “information service.” On April 2010, the U.S. Court of Appeals for the District of Columbia ruled that this classification restricted the FCC’s ability to implement the proposed National Broadband Plan (Kang, 2010, para. 1-3).

Provided that the FCC has the necessary regulatory authority to implement the plan, (and at time of publication, it appears the process is moving forward) the reforms put forward by NPM and NABA, and announced by the FCC, can be seen as the successful incorporation of “digital self-determination” in national broadband development policy. FCC Chairman Julius Genachowski announced several reforms in an address to the National Congress of American Indians (remarks cited in Native Public Media, 2010; see also FCC, 2010a). He referred to evidence of the specific challenges and opportunities of broadband development on Tribal lands, and he noted broadband’s role as an important tool in community development. He stated it that the plan was developed with input from Tribal leaders, who shared challenges and Tribal-centric solutions, gave examples of successful community-based networks, and made clear references to the critiques and reform proposals expressed by NPM and NABA, as well as to indigenous self-determination:
The clear message both in your comments and in these examples is that the unique circumstances of Tribes must be considered in the National Broadband Plan, and that **Tribal governments must have a central role in developing solutions to increased broadband access and adoption to their communities.** (Native Public Media, 2010, p. 4, emphasis added)

Genachowski also announced several funding programs that reflect proposals put forward by NPM and NABA, such as a Tribal Broadband Fund, and a number of institutional reforms, including the creation of Tribal seats on the Federal-State Joint Board on Universal Service and the USAC Board of Directors. The Office of Native Affairs and Policy will be housed in the FCC’s consumer and governmental affairs bureau and “promote policies to expand broadband availability in tribal lands and Native communities” (Nagesh, 2010, para. 2; see also FCC, 2010a).

This case study may offer lessons for policymakers and activists in Canada engaging in similar activities. The U.S. experience demonstrates how a clearly defined, formal relationship between federal policymakers and indigenous communities can help support the recognition of “digital self-determination” in national broadband policy. As argued earlier, in Canada the opportunities for reform are different—and in some ways, more restricted than in the United States. The Canadian government has only recently provided targeted opportunities for indigenous communities to engage in national broadband development policy on a government-to-government basis. Furthermore, there is no specific formal recognition of indigenous self-determination in broadband policymaking. As Canada moves to develop a National Digital Strategy, there may be an opportunity to address these challenges.

**Conclusion**

In both Canada and the United States, indigenous communities have historically lacked access to the level of broadband infrastructure enjoyed by the broader population. Given evidence of these discrepancies, and the inability of market-based development models to address them, indigenous groups in both countries argued for public support of broadband infrastructure development, while at the same time building their own efficient, effective community-based networks. Case studies from both countries demonstrate that indigenous groups are actively engaged in strategic, coordinated policy interventions that aim to take advantage of converging historical conditions: increased government and public support of a coordinated national broadband policy; the release of stimulus funding dedicated to the development of broadband infrastructure in rural and remote areas; and the existence of community-based indigenous broadband networks that might serve as models for a national infrastructure. Table 1 compares some of the key elements in these processes.

In the United States, the federal government formally recognizes indigenous sovereignty in the development of broadband policy, as reflected in the FCC’s *Statement of Policy on Establishing a Government-to-Government Relationship with Indian Tribes* (2000). However, indigenous representatives pointed out that policy often fails to live up to this symbolic agreement. They presented this argument during the release of the draft National Broadband Plan. As a result of their efforts, the proposed National Broadband Plan not only provided more coordinated funding support for indigenous
### Table 1: Comparing indigenous broadband policy in Canada and the United States

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<thead>
<tr>
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<th>United States</th>
<th>Canada</th>
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<tr>
<td><strong>Indigenous actors</strong></td>
<td>National Congress of American Indians (national)</td>
<td>Assembly of First Nations (national)</td>
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<td></td>
<td>Native Public Media (national)</td>
<td>Regional Management Organizations (regional)</td>
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<td>Native American Broadband Association (national)</td>
<td>Community-based indigenous broadband organizations (local)</td>
</tr>
<tr>
<td><strong>Case studies</strong></td>
<td>Targeted consultations during development of the National Broadband Plan and the release of attached funding for indigenous broadband infrastructure</td>
<td>Pre-National Digital Strategy presentations at the 2009 Aboriginal Policy Research Conference</td>
</tr>
<tr>
<td><strong>Reform proposals</strong></td>
<td>Present empirical evidence of existing broadband deficiency and success stories</td>
<td>Present empirical evidence of existing broadband deficiency and success stories</td>
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<td></td>
<td>Reforms to existing funding mechanisms (successful)</td>
<td>Reforms to existing funding mechanisms (not yet happened)</td>
</tr>
<tr>
<td></td>
<td>Reform existing federal government broadband administrative structures to enable indigenous participation</td>
<td>Suggest national First Nations broadband development strategy administered by First Nations organizations and funded through (expanded) government programs and partnerships with public/private sector organizations</td>
</tr>
<tr>
<td><strong>Key challenges</strong></td>
<td>Socio-economic disparities; lack of basic telecommunications infrastructure</td>
<td>Geographic location; paired with socio-economic disparities and lack of infrastructure</td>
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<td></td>
<td>Political opposition to FCC jurisdiction over Internet regulation that may restrict its ability to implement National Broadband Plan</td>
<td>Lack of defined relationship and commitment between federal government and First Nations governments with regards to broadband policy development</td>
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<tr>
<td></td>
<td></td>
<td>Lack of recognition of unique First Nations, Inuit, and Métis contexts in early consultations about <em>National Digital Strategy</em></td>
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broadband development but also included reforms to institutional structures to enable more substantive involvement in decision-making.

In the Canadian case study, the incorporation of First Nations participation in a federally driven broadband development policy has yet to take place. The government is formulating its National Digital Strategy and Aboriginal connectivity strategy, but the stimulus funding provided to develop broadband infrastructure is significantly less (adjusted per capita) than that released in the United States (“Canada's Broadband Lag,” 2010). Federal broadband policy at present subsumes indigenous development under “rural and remote” development and does not provide any formal, direct recognition of indigenous self-determination in broadband development policy. In the absence of a supportive policy framework, First Nations groups in Canada worked to develop their own national First Nations broadband strategy. Their efforts are framed in the federal government’s general recognition of indigenous self-determination, as defined in the 1982 Constitution Act and affirmed in court cases and in treaty rights, and in the federal government’s fiduciary obligation to provide public services such as health and education to First Nations communities. At a recent Aboriginal Policy Research Conference, presenters argued that if adequately supported, already-existing First Nations broadband networks and governance structures can form the basis of a national First Nations broadband strategy that retains the benefits of community-based governance.

A recently released (December 2010) report, Putting the 'Last-Mile' First: Re-framing Broadband Development in First Nations and Inuit Communities, summarizes First Nations community-based broadband in Canada (disclosure: the author was involved in this project)11. Through an extensive literature review and interviews with 23 key informants, the report found that many of these communities remain unserved (McMahon et al., 2010). Despite a history of federal initiatives for broadband development in rural and remote communities, federal leadership and strategy in this area is lacking, coherent policy on Aboriginal connectivity is non-existent, current programs are deficient and flawed, and funding is at levels far below what is needed (McMahon et al., 2010). But at the same time, organizations representing First Nations communities are planning, administering, managing, and, sometimes, owning digital networks and technologies. They are also applying these technologies to deliver public and community services in areas such as health, education, government, culture, and language. The report summarizes the ideas and critiques put forward by 23 individuals representing organizations working to develop community-based First Nations broadband infrastructure, putting forward several discussion themes that may be of use to policymakers. Ideally, every First Nations community in Canada would have locally owned and/or managed broadband infrastructure and related technologies capable of supporting public and community service applications that support strong First Nations governments (McMahon et al., 2010). This vision supports an approach to broadband development that emerges from the needs and contexts of local communities.

A formally defined government-to-government relationship with regards to indigenous broadband policy in Canada, similar to that already in place in the United States, might help guide and support the development of Canada’s National
Digital Strategy and Aboriginal connectivity strategy. Industry Canada already acknowledges the specific challenges faced by rural and remote communities, as reflected in the Broadband Canada: Connecting Rural Canadians program. However, as argued in this article, current policy frameworks fail to adequately recognize the specific and diverse contexts of First Nations, Inuit, and Métis communities (Anderson, 2005; McMahon et al., 2010; Mignone & Henley, 2009). Canada has signalled its commitment to a new relationship with Aboriginal communities, as expressed in the establishment of the Truth and Reconciliation Commission of Canada and through the federal government’s recent endorsement of the United Nations Declaration on the Rights of Indigenous Peoples. The National Digital Strategy and Aboriginal connectivity strategy offer two additional, complementary opportunities for the Government of Canada to build on the existing successes of indigenous communities in this area, while further demonstrating its stated commitment to uphold the rights of indigenous peoples.

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Notes
1. For this article, the term “indigenous” refers to the diverse range of Native American communities in the United States and of First Nations communities in Canada. However, it is important to acknowledge the many distinct local histories and experiences, policy environments, and contexts between the different communities and population groups that are conflated through the use of the term “indigenous.”

2. “Broadband” is defined in several ways, but for the purposes of this article it describes a level of Internet access that enables high-bandwidth applications like video conferencing.

3. The consultation website is http://www.digitaleconomy.gc.ca.

4. The APRC’s website is http://www.aprc-crmpa.ca.

5. Benkler’s report, published by the Berkman Center for Internet & Society at Harvard University, was critiqued upon its draft release (see, for example, Ou, 2009). However, Benkler justified the study’s method and responded to the critiques (Benkler, 2009a). The Berkman Center also provided updates to the final report on December 21, 2009, that reinforced the draft’s conclusions (Benkler, 2009b).
6. The workshop’s website is http://www.broadband.gov/ws_diversity.html.

7. For more information on MAG-Net, visit http://www.mag-net.org.

8. See, for example, the Native American Connectivity Act. It was introduced on May 5, 2005, but that session of Congress ended before the bill became law.

9. This statement is further grounded in other provisions, including sections 214(e)(3) and (6), and section 254(i) of the 1996 Telecommunications Act (FCC, 2000).

10. ITT's process involves four consultative activities: regional workshops and round tables to foster intergovernmental consultation; conferences; one-on-one meetings between Tribal representatives and FCC staff; and the distribution of educational materials to indigenous communities (FCC, 2007).

11. While this report included documentary research on and interviews with representatives from organizations serving Inuit communities, it did not include Inuit representatives as project research partners. Therefore, to ensure the unique contexts of these communities are not misrepresented in this article without proper consultation, the points raised in this paragraph at present refer only to First Nations organizations and communities.

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## Appendix 1:
Papers from Aboriginal Policy Research Conference, Ottawa, March 9-12, 2009

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