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Universal and non-excludable broadband Internet access: A modest proposal for municipal provisioning of broadband as a basic service

Michel Mersereau
PhD, Faculty of Information, University of Toronto

Abstract
This paper argues for localizing the provisioning of broadband internet access within the portfolio of municipal services with a view to achieving universal service penetration. In supporting this proposition, this paper first offers a critique of how the centralization of regulatory oversight at the federal level has proven problematic in meeting universal service objectives. The paper then presents a rationale and proposition for provisioning household broadband services in low-income urban areas through municipal social and subsidized housing undertakings, and as a partial redress to broadband disenfranchisement.

Keywords: universal broadband access, internet policy, internet access rights, social technology inclusion, municipal services

Résumé
Cet article plaide en faveur de la localisation de l'approvisionnement d'accès Internet à large bande par les services municipaux en vue de parvenir à un déploiement de service universel. Afin d'appuyer notre proposition, l'étude d'abord offre une critique de la manière dont la centralisation de la supervision réglementaire au niveau fédéral s'est avérée problématique pour atteindre les objectifs du service universel. Ensuite, l'on présente une proposition pour l'approvisionnement de services à large bande aux ménages dans les zones urbaines à faible revenu par le biais d'entreprises municipales de logement social et subventionné, et comme une solution partielle pour redresser la situation d'inégalités d'accès Internet à large bande.

Mots-clés: de l'approvisionnement d'accès Internet à large bande; déploiement de l'Interner pour service universel; services à large bande aux ménages dans les zones urbaines à faible revenu

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Introduction

The Canadian Radio-television and Telecommunications Commission's (CRTC) 2016 decision entitled *Modern telecommunications services – The path forward for Canada's digital economy* reflects a culmination of public interest advocacy in the provisioning of universal internet service delivery in Canada, while simultaneously illuminating the tensions that have underpinned efforts to remediate broadband access barriers. At first blush, the CRTC's 2016 decision appears to represent a promising departure from the Commission's previous efforts to advance an agenda in support of broadly inclusive internet access. Framing its decision to situate access to broadband internet as a basic service, the CRTC articulates a number of social and economic junctures in which universal internet service availability is recognized as an essential telecommunications service. Central to the CRTC's 2016 decision is a shift in the Commission's focus from telephony to broadband internet service as Canada's key telecommunications resource, and a designation of both mobile and fixed broadband internet as basic telecommunication services in Canada (Canadian Radio-television and Telecommunications Commission, 2016; Jayakar, Maitland, Peha, Strover, and Bauer, 2016).

Although the CRTC's final decision was lauded for centralizing broadband access as the primary telecommunications service that will guide its future focus, and for the substantial increase in targeted service speeds to 50 Mbps, a critical analysis of the Commission's 55 page decision reveals the CRTC's reluctance to exercise its regulatory powers with a view to compelling telecommunications service providers (TSPs) to meet the quality, service penetration, and affordability targets identified in the decision. In perhaps more of a tacit admission of the limitations of its own powers to effect comprehensive broadband access, the CRTC makes numerous references to the roles and responsibilities of ambiguously defined external stakeholders:

> The Commission cannot address on its own all the gaps in the availability and adoption of broadband Internet access services that have been identified over the course of this proceeding. While the Act gives the Commission broad powers to regulate the provision of telecommunications services, other stakeholders are better placed to implement solutions to address some of these gaps, as discussed later in this decision (Canadian Radio-television and Telecommunications Commission, 2016: 13).

The consistency with which the CRTC calls for collaborative approaches is substantial; both in defining the limits of its own role, as well as illuminating a potential pathway for autonomy at the local community level. It is at this juncture that the following discussion forwards an argument for increased municipal intercession in the delivery of household broadband services, to communities characterized by heightened levels of economic and social vulnerability, and through municipally provisioned social and subsidized housing undertakings. Borrowing its conceptual grounding from Community Informatics scholarship, the purpose and rationale underscoring this proposition suggests that actualizing constructive outcomes in relation to digital technology use is necessarily contingent on local autonomy, both in the design of community networks, as well as provisions to support the differentiated needs of users (Clement et al., 2004; Clement and Shade, 2000; Karanicolas, 2014). Background is presented through a critical analysis of the shortcomings of telecommunications oversight at the federal level, which suggests that incumbent TSPs have benefitted from a regulatory regime which has prioritized the diffusion of broadband services through the retail market, and where local governments wield little statutory authority in telecommunications matters.

Any critique of the apparent gaps contained within the CRTC's 2016 decision should be framed by an understanding of the tensions between public and commercial telecommunications interests that have characterized CRTC activities for three decades. These include; voice and data deregulation in 1979 (Shepherd, Taylor, and Middleton, 2014) and the removal of pricing caps in 2006 (Public Works and Government Services Canada, 2006). By claiming that the bulk of the barriers identified in the 2016 decision exist beyond its regulatory mandate, the CRTC does little to promote confidence in its leadership role, assuage critics who have accused the Commission of absenteeism in curating its public interest mandate, or to support local governments who have been challenged by incumbent TSPs (Federation of Canadian Municipalities, 2009).

The structural and political limitations of federal oversight

From an administrative perspective, and unlike its counterparts in other jurisdictions, the CRTC operates as an independent public organization under the purview of two federal agencies; Innovation, Science and Economic Develop-

ment Canada (ISED), and the Heritage Minister. The superordinate relationship between the CRTC and ISED, in particular, have characterized telecommunications policymaking in Canada; illustrating how structural barriers have constrained the CRTC's efforts to universalize broadband access, and allowed TSPs to exploit regulatory backdoors with a view to challenging decisions made by the commission (Mackwood, 2015).

Though exclusively centralized at the federal level, telecommunications regulation in Canada is nonetheless tensioned by the relatively transparent and public activities of the CRTC on one side, and by the conspicuously opaque and politicized decision making of ISED (formerly Industry Canada) on the other (Rajabiun and Middleton, 2016; Shepherd et al., 2014). ISED's parliamentary privilege (and indirect oversight) over the CRTC is most problematically evidenced via the *cabinet appeal* process, a circuitous regulatory channel which has allowed TSPs to circumvent the authority of the CRTC by appealing directly to ISED, and whose procedural characteristics have tended to favour submissions from the commercial sector rather than from public/consumer advocates (Shepherd, 2018). The cabinet appeal process constitutes a superordinate layer of telecommunications oversight that is susceptible to political partisanship, while simultaneously lacking mechanisms for public accessibility or transparency (Rajabiun and McKelvey, 2019; Shepherd, 2018). Indeed, a number of decisions rendered by ISED via the cabinet appeal process illuminates the mediating role of political partisanship at the federal level. During the conservative era between 2006 and 2014, ISED (then Industry Canada) went so far as to direct the Commission to *limit* its regulatory activities in pursuing universal service delivery (Public Works and Government Services Canada, 2006); and adjudicated in favour of incumbent TSPs on their statutory obligations to serve (Privy Council Office, 2009b) and in limiting wholesale access to their networks ("Petitions to the Governor in Council concerning Telecom Decisions CRTC 2008-117 and CRTC 2008-118," 2009; Privy Council Office, 2009a).

Public interest representation is central to the CRTC's official mandate (Telecommunications Act, 1993). The last 30 years, however, have demonstrated a progressive *re-regulatory* agenda that has often been at odds with politically liberalized framings of those interests; failure to action the recommendations of the National Broadband Task Force (2001) to de-centralize broadband deployment, and a failure to impose minimum internet service levels in 2011 (Janigan, 2011; Rajabiun, 2017).The CRTC's history of relying on market based mechanisms in servicing its public mandate have caused some critics to accuse the commission of absenteeism in meeting its public interest obligations (Bishop and Lau, 2016; Moll and Shade, 2011; Shepherd et al., 2014). While market based solutions have constituted the primary lattice upon which the CRTC has operated, this itself is not rationale for accusing the Commission of neglecting its public interest role. Some scholars have noted the consistency with which the CRTC has engaged in ongoing *re-regulation* of Canada's telecommunications sector in order to balance public and commercial interests in the pursuit of comprehensive broadband availability (Babe, 1990; Winseck, 2017). In this context, much of the critical response directed at the Commission tends to foreclose on the economic realities of policymaking (Winseck, 2017).

The fundamental problem is not that the CRTC pursues market based solutions in and of themselves, but rather that those approaches are contingent upon collaboration between public stakeholders and commercial TSP incumbents; incumbents who have historically been resistant to public partnerships, but who instead tend to favour public subsidies (Mackwood, 2015; Rajabiun, 2017). While telecommunications policy on any level is subject to economic considerations, in Canadian telecom policy narratives those considerations tend to regarded as reconcilable only with the constructive participation of commercial TSPs. A problem emerges when ideals of public interest conflict with those commercial interests, illustrating what Tamara Shepherd (2018) described as "discursive legitimations that reinforce existing power differentials" (Shepherd, 2018: 242). The public submission phase that led into the CRTC's 2016 decision illustrates this differential, with commercial telecommunications stakeholders framing the ideal of the public interest as an economic, rather than a political affordance. In this case, industry submissions characterized the barriers to, and opportunities afforded by, universal broadband access almost exclusively in the context of Canada's "digital economy" (Bell Canada and its Affiliates, 2015). Public interest advocates, for their part, tended to characterize those barriers in terms of their consequences for the basic activities of disenfranchised communities; access to basic employment services, public transit, healthcare and education (Media Access Canada, 2016; Nenshi, 2015; The Affordable Access Coalition, 2015). From this footing, state regulators like the CRTC can more accurately be scrutinized for failing in their roles as intermediaries who stand between the public and commercial interests, and for failing to insulate key public interest areas from the uncertainties and tumult of the commercial telecommunications market.

As a structural limitation, the community level intersections that characterize the role of the internet in supporting the day-to-day needs of Canadians presents a problem of abstraction for policy produced at the federal level. Simply put, federal policy is limited in its ability to reconcile those needs, both as a reflection of the degree to which it must normalize outcomes across broad constituencies, and in its susceptibility to politicization. Canada's own National Broadband Task Force (NBTF) in 2001 identified the problem of regulatory abstraction as a barrier to universal broadband provisioning in its recommendation to empower local levels of government (Rajabiun, 2017). Unlike some European examples, most municipal governments in Canada are not afforded significant statutory privileges in their negotiations with superordinate levels of government or federally regulated TSPs. Though legislative authority is granted to the CRTC through acts of parliament, the Commission's efforts to test the limits of its authority have been regularly challenged by federal, private, and inter-governmental stakeholders (Fasken Martineau DuMoulin LLP, 2011; Masse and Beaudry, 2015; Public Works and Government Services Canada, 2006; M. H. Ryan, 2012).

Owing, in part, to the ambiguity of its powers embodied in the *Telecommunications* and *Broadcasting Acts*, the CRTC itself appears ill positioned to meaningfully address the broadband needs of local communities, nor to compel public-private cooperation on the part of incumbent TSPs who tend to view any form of public interlocution as antithetical to their interests, and who instead rely on public oversight that limits competitive access to the service market (Shepherd, 2018), or when seeking federal paramountcy in disputes with municipalities (Federation of Canadian Municipalities, 2009; M. Ryan, 2011), as antithetical to their interests. This state of affairs is tacitly acknowledged by the CRTC throughout its 2016 decision. The opportunity now is to tie together research and advocacy across all three primary levels of government in Canada with a view to developing an inter-jurisdictional broadband delivery framework to more effectively redress the technical, economic, educational, and literacy barriers that characterize Canada's digital divide.

A model example of universal service provisioning

The delivery and administration of universal healthcare in Canada provides a helpful model for envisioning a curatorial role for the federal government. In this scenario, parallels can be drawn between the indirect role played by federal stakeholders in enabling a constructive statutory environment, with federal oversight mostly limited to ensuring that the provinces, tasked with on-the-ground service delivery, adhere to the principles of the *Canada Health Act* (which provide for universality and non-excludability) (British Columbia Ministry of Health, 2012; Health Canada, 2012).

The interjurisdictional framework upon which healthcare is delivered in Canada illuminates two characteristics that are salient to envisioning a federal role in universal broadband provisioning; that diverse regional interests can foreclose on the ability of federal stakeholders to exercise meaningful administrative oversight; and that a more constructive undertaking for the federal government is to *indirectly* facilitate the delivery of services by enabling more localized levels of government. As a functional model, however, the healthcare example falls short in some key areas:

Funding

On-the-ground health services are provided by a combination of public and private practitioners, Canada's single payer system is wholly public in its funding, and explicitly precludes private insurance carriers from the market of provisioned health services (British Columbia Ministry of Health, 2012). In the context of broadband service delivery, the delineation of telecommunications oversight between the CRTC and Innovation, Science and Economic Development Canada (ISED) (Mackwood, 2015), as well as the absence of Provincial telecommunications undertakings in all but one province (SaskTel), suggests that a national and publicly administered undertaking is unlikely to glean any meaningful political support.

The provincial role

The provincial role is equally problematic, as unlike healthcare, telecom oversight in Canada is entirely centralized at the federal level. All but one of the provincial telecommunications undertakings that emerged in the mid 20th Century have since been subsumed by Canada's incumbent TSPs (Harper, 1999). Provincial support for the deployment of intermediate broadband infrastructures, as evidenced in Alberta's *SuperNet* (Choma, 2018) project and the Province of Ontario's recently announced *Up to Speed: Broadband and Cellular Action Plan* (Office of the Premier, 2020), evidence an interventionist role for provinces in facilitating large-scale undertakings that leverage provincial rail and

transportation assets. Additionally, and by leveraging its existing educational resources, the role of the province could be focused on helping to remediate issues of digital literacy and inform constructive outcomes for users via the public education system.

The federal role

The delineation of regulatory oversight in healthcare delivery is as much a product of administrative necessity as it is a product of political idealism, with the *Canada Health Act* providing the statutory framework necessary to mobilize stakeholder activities and limit ambiguity in service provisioning. Unlike Health Canada, a federal ministry with direct oversight of the *Canada Health Act*, the CRTC lacks the parliamentary privilege that would be required to directly mobilize changes to the *Telecommunications Act* with a view to entrenching universality as a statutory principle.

Municipal intervention in the provisioning of broadband services

The pursuit of universally accessible broadband, therefore, will likely require concerted and deliberate action on the part of municipal policymakers who are less susceptible to the partisanship associated with formal party structures at the Provincial and Federal level, and where the ideal of the public interest is more easily reconciled in the provisioning of basic services. In this arrangement, federal regulators will be pressed to reconcile their activities against the public interest claims made by local governments, especially in response to any appeals made by incumbent TSPs. This is not uncharted territory; previous challenges to municipal oversight in telecommunications matters have seen both the CRTC as well as Canadian courts adjudicate in favour of incumbent TSP claims to federal immunity from municipal oversight (Babe, 1990; Hogg, 1990). The important characteristics of those deliberations, however, related to interpretations of broader telecommunications sector oversight, as well as the abilities of municipalities to recoup costs from TSP activities within their jurisdictions (Federation of Canadian Municipalities, 2009).

The prospect of municipalities provisioning broadband as a basic service would not only challenge the regulatory incumbency of the CRTC, but also serve as a litmus for the Commission's framing of the public interest. A number of Canadian municipalities have successfully deployed broadband services of their own including, fibre deployment in Coquitlam, B.C. in 2008, gigabit service in Olds, Alberta in 2015, and gigabit service in Stratford, Ontario in 2016 (Christopher, 2017; Chung, 2013; Community Broadband Initiative, 2008; Khoo and Anderson, 2015; Prkachin, 2016). In these cases, political willpower was emboldened by the dissatisfaction expressed from within local public and business communities with the cost, selection, and reliability of incumbent broadband services. Pursuing a community level broadband undertaking was identified as a means of redressing these issues, while simultaneously supporting local economic interests by way of direct and indirect job creation (Christopher, 2017; Community Broadband Initiative, 2008). While these initiatives constitute alternatives to the norm, they do illuminate the advantageous position of municipalities who pursue their own broadband service initiatives, as well as the net social and economic benefits for their constituencies. In terms of service delivery costs, municipal broadband situated under the umbrella of basic utilities can minimize capital costs by piggy-backing onto existing infrastructure while allowing the service to be managed on a not-for-profit basis. These examples, however, tend to be isolated to low priority retail broadband markets (Chung, 2013; Khoo and Anderson, 2015), or have been characterized by public Wi-Fi networks leased from TSPs (Middleton, 2009). As such, none have been met with any serious challenges from Canada's incumbent TSPs. What remains to be seen is the manner in which the CRTC would interpret TSP challenges to municipal broadband activities in high priority service markets, and deployed under the statutory umbrella of basic services.

Bridging the urban connectivity divide

Municipal policymakers have begun to envision the digitally networked environments of cities in terms of *infrastructural* qualities, distinct from a mobilizing economic logic that prioritizes the commercial affordances associated with municipal broadband access (Middleton, 2015; Powell and Shade, 2006), and increasingly in terms of building more inclusive environments that bridge socio-economic gaps (City Clerk's Office, 2015b, 2015a). While barriers to internet connectivity have traditionally been framed in terms of the rural-urban divide (Clement et al., 2004; Rajabiun and McKelvey, 2019; Shepherd, 2018), increasing attention has been directed towards evidence of internet precarity in ostensibly 'wired' urban centres such as the City of Toronto (ACORN Canada, 2020; City Clerk's Office,

2015a, 2015b). Although on-the-ground internet services are broadly diffused across the city, a combination of high retail service costs (Fontur International Inc. and MDB Insight Inc., 2017; Muzaffar, 2016) and quality levels that are incommensurate with the basic service targets announced by the CRTC in 2016 (Canadian Radio-television and Telecommunications Commission, 2016; Rajabiun and McKelvey, 2019), have made household internet accessibility elusive for some of Toronto's most vulnerable populations (Media Relations Department, 2020; Teotonio and Rushowy, 2020).

Municipalities also constitute a level of governance that is highly accessible to constituents and characterized by collaboration between community organizations and elected officials in the delivery of essential public services. In this capacity, municipalities appear ideally situated to ensure targeted and stable broadband delivery to the residents that are most susceptible to the consequences of broadband disenfranchisement (Eubanks, 2007). Concrete examples of broadband disenfranchisement in otherwise highly connected urban centres can be found within low income and socially housed communities, a majority of which are comprised of families living on fixed and socially subsidized incomes (City Clerk's Office, 2015b; Statistics Canada, 2017; Toronto Community Housing Corporation, 2016, 2019). In these households, the abilities of individuals and families to maintain the daily routines that characterize their basic needs activities (housing maintenance, employment, education, healthcare and social inclusion), is further compromised by limited or unstable broadband access (Mikkonen and Raphael, 2010; The Affordable Access Coalition, 2015).

Social and subsidized housing services represent a particularly viable option for municipal governments interested in ensuring broadband service delivery at the threshold identified in the CRTC's 2016 decision. These facilities, wholly owned and operated as not-for-profit undertakings within municipal service portfolios, provide essential housing services to the communities most likely to experience affordability constraints, and to devote a higher percentage of their household incomes to maintaining internet connectivity (Gonzales, 2015). If municipalities were to enfold broadband access as a *basic service* in their social and subsidized housing portfolios, municipal governments could help to bridge a significant affordability gap within low-income communities, while simultaneously alleviating a layer of stigmatization faced residents struggling to maintain essential broadband services (Eubanks, 2007; Federal Trade Commission, 2016).

Barriers faced by municipalities

Though public policy at the municipal level is, typically, not as susceptible to the politicization that mediates policy at upper levels of government, empowering local governments would necessarily require the constructive facilitation of provinces and federal regulators; illuminating some of the primary obstacles to widespread delivery of broadband internet within the framework of municipal services. In the period between 2000 and 2011, the CRTC has consistently ruled in favour of incumbent TSPs on matters related to the deployment of TSP infrastructure in municipalities (Federation of Canadian Municipalities, 2009; The Strategic Counsel, 2010). In seven separate decisions between 2001 and 2009, the CRTC exercised its powers under Section 43 of the *Telecommunications Act* to support applications made by incumbent TSPs to enter and occupy municipally governed thoroughfares and public spaces, and over the expressed objections of local authorities (Federation of Canadian Municipalities, 2009). Despite clear language in the act that prohibits such action without the consent of the affected municipality, the consistency with which the commission has sided with TSPs has resulted in a regulatory state of affairs where incumbent TSPs are seen to exercise a "power to enter" by default (Federation of Canadian Municipalities, 2009: 7). Given the underpinning commercial prerogatives that guide the deployment of TSP infrastructures, critics have framed this scenario as an example of the disconnect between federal telecommunications policy and the interests of local communities, wherein the power to protect public space for public interests is made subordinate to the commercial interests of regulated TSPs (Winseck, 1995).

Extra jurisdictional tensions constitute another problematic barrier for municipalities whose statutory privileges are derived from the provinces. The reconfiguration of the City of Toronto's electoral boundaries by a newly elected conservative government in Ontario have foregrounded the limited scope of self-determination afforded to municipalities (Mahoney, 2019; Tassonyi, 2017), and the impermanency of municipal autonomy given their subordinate status as "creatures of provinces" (Stoney and Waters, 2008). In a near complete reversal of the conciliatory provisions embodied by the *City of Toronto Act* (2006), the Progressive Conservative government under Premier Doug Ford withstood successive challenges made by the City of Toronto to the exercise of its constitutional prerogatives in uni-

laterally reducing the size of Toronto City Council. Nominally proposed as an effort to reduce governing costs and diversify local representation, local authorities pointed out the implicit partisanship motivating the action as little more than an effort to disempower politically progressive voices on council (Boisvert, 2019).

Pathways for municipalities

Municipalities who wish to pursue broadband delivery undertakings of their own would require conciliatory arrangements with provincial governments and federal regulators alike, primarily with a view to deferring challenges brought forward by incumbent TSPs. Should the CRTC prioritize a framing of the *public interest* independent of commercial prerogatives, and across the spectrum of matters brought to its attention, the Commission could both directly and indirectly empower local and regional governments to exercise community driven prerogatives (which may or may not privilege commercial interests) in the provisioning of broadband internet services.

Notable examples of Canadian municipalities who have pursued wholly public, not-for-profit broadband undertakings include Campbell River and Coquitlam, British Columbia, Olds, Alberta, and Stratford, Ontario (Community Broadband Initiative, 2015, 2016). In addition to ensuring the availability of affordable broadband at service thresholds over and above those provisioned by incumbent TSPs, the public oversight implicated in these undertakings constitutes a critical layer of protection against misuse of user data, and for the entrenchment of net-neutrality independent of the oversight of incumbent TSPs in these matters at the federal level (Lord, 2018).

Despite examples of wholly public municipal broadband initiatives in Canada, this pathway is potentially fraught in larger, high value urban centres. Beyond the logistical complexity associated with deploying the necessary infrastructure, it is possible that municipalities instantiating themselves as carriers in these environments would result in regulatory challenges by incumbent TSPs who have a history of exploiting cabinet appeals to quell "competitive" undertakings (Mackwood, 2015; The Canadian Press, 2019).

Though lacking explicit statutory privilege in telecommunications undertakings, larger Canadian municipalities have the potential to leverage their capital assets and purchasing power to situate themselves as intermediaries in the provisioning of retail broadband services for vulnerable constituencies, and in relatively short order through their social and subsidized housing portfolios. Contingent on the political willpower to mobilize public resources, household internet services would thusly be enfolded into the base occupancy rent paid by subsidized residents commensurate to the rate for such services negotiated by the municipality. This approach is efficacious as a partial remedy to digital exclusion for two primary reasons. First, services provisioned under this model are the result of a financial transaction on the part of the municipality rather than a costly and time consuming network undertaking. Second, enfolding internet services into subsidized housing portfolios would extend statutory protections against service disconnection; ostensibly situating the internet as a non-excludable public service.

Telecommunications policymaking in Canada can be understood in terms of the subordinate/superordinate arranging of public and commercial values (Shepherd, 2018). And while no form of broadband policy can, on its own, remediate the underlying social and economic inequities embodied in Canada's contemporary digital divide, we must nonetheless accept that the near total support the technology provides to the day-to-day functioning of contemporary Canadian society has situated broadband access as a de-facto compulsory affordance that is necessary for active citizenship in the 21st Century. In policy terms, statutory provisions for non-excludable access to the internet could be realized by situating access to broadband service similar to that of universal healthcare or education, whereas universality is likely to be achieved by instantiating the technology alongside other "basic" utilities like water, electricity, or telephone. All of these services are facilitated, to varying degrees, at the municipal level, and commensurate to the unique needs of local constituents. Given the scope of basic and essential services provisioned by local governments, as well as the flexibility in revenue generation afforded to municipalities, situating broadband access within municipal portfolios would not only empower local stakeholders with a direct interest in the issue, but also allow a level of oversight to take root that is far more responsive to community needs.

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