

# ACHIEVING UNIVERSAL SERVICE IN DEVELOPING AREAS: THREE POLICIES FROM LATIN AMERICA AND WHAT THEY CAN TEACH THE UNITED STATES

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*This Note analyzes policies designed to incentivize nationwide internet access in Latin America and the United States. It looks at recent policy changes in Colombia, Mexico, and Peru, and it proposes that policymakers and public interest advocates in the United States can extract valuable lessons from these changes. Specifically, this Note seeks to answer the following questions: (1) what policies—designed to close the digital divide—have Colombia, Mexico, and Peru implemented in recent reforms to their telecommunications laws, and (2) how can policymakers and consumer-advocates apply these policies to achieve Universal Service in developing areas of the United States? A look at telecommunications laws in Latin America reveals three major lessons: (1) digital inclusion of marginalized groups; (2) municipal involvement in deploying broadband infrastructure; and (3) maintenance of strong regulatory institutions. Finally, this Note proposes that these lessons can be turned into three actionable policies: (1) launch a national digital inclusion campaign; (2) overturn state laws that hinder the ability of municipalities to create their own broadband networks; and (3) reinstate Net Neutrality regulations.*

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\* Edyael is a graduate of the University of Colorado Law School where she served as Lead Student Note Editor for the Colorado Technology Law Journal. I would like to thank the amazing editorial staff at CTLJ for their invaluable guidance and revisions. A very special thanks to Prof. Ming Hsu Chen for showing me how to analyze complex international policies with precision and heart. This article is dedicated to my mamá and my sister, who taught me that geopolitical borders are legal fictions, and to my sweetheart for her unconditional support. This article is specially dedicated to the growing cadre of telecommunications and technology advocates and activists who inform and inspire my writing. Thank you for your tireless work to ensure that all communities – especially the most vulnerable – have the opportunity to be architects of the digital age. Thank you for ensuring that as humans get online, so do civil and human rights.

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## INTRODUCTION

This Note analyzes policies designed to incentivize nationwide internet access in the United States and Latin America. It considers recent policies in Colombia, Mexico, and Peru, and it proposes that these Latin American policies offer valuable lessons about extending telecommunications services across a country. Specifically, this Note seeks to answer the following questions: (1) what policies—designed to close the digital divide—have Colombia, Mexico, and Peru implemented in their recent reforms to telecommunications laws, and (2) what lessons can telecommunications providers, policymakers, and public interest advocates learn from those policies about achieving Universal Service? Finally, this Note offers three actionable policies, based on the lessons from Latin America, that American policymakers can apply to close the digital divide in developing areas of the United States: (1) digital inclusion of marginalized groups; (2) supporting municipal involvement in deploying broadband infrastructure; and (3) maintaining strong regulatory institutions. Each lesson is illustrated by a specific policy reform enacted in Colombia, Mexico, or Peru; however, not all three countries have adopted the same policy reforms.

## I. LATIN AMERICAN TELECOMMUNICATIONS REFORM IN BRIEF

El Plan Vive Digital (“Vive Digital”) is Colombia’s momentous plan to “push towards democracy” by deploying internet service to Colombians.<sup>1</sup> The plan includes initiatives that build internet access points in remote and rural areas, help Colombians apply to jobs, offer digital literacy classes, and engage individuals in civic participation.<sup>2</sup> Vive Digital is a sophisticated, massive undertaking designed to foster democratic participation and encourage Colombians to use digital technologies in their daily lives.

Proyecto de la Red Dorsal (“Red Dorsal”) is Peru’s policy to deploy a national fiber backbone network managed by the Ministry of Transportation and Communications.<sup>3</sup> The Red Dorsal implements innovative ways to use existing infrastructure to achieve broadband deployment across the country.<sup>4</sup> For example, it relies on rights-of-way granted to other industries, and it requires public electricity and gas providers to allow public telecommunications providers to access and use their infrastructure.<sup>5</sup>

Mexico’s Ley de Telecomunicaciones y Radiodifusión (“Ley Telecom”) amended the Mexican Constitution in order to establish a new regulator, the Federal Institute of Telecommunications (IFT),<sup>6</sup> following concerns that the previous regulator was ineffectual in wrangling the newly-privatized Telmex. Telmex was the state-owned and operated monopoly landline provider in Mexico.<sup>7</sup> In a miscalculated effort to encourage free-market competition, Telmex was opened for privatization in 1989 and sold to a consortium of three companies that later became the infamous América Móvil.<sup>8</sup> At the time

1. *El Plan Vive Digital*, MINISTERIO DE TECNOLOGÍAS DE LA INFORMACIÓN Y LAS COMUNICACIONES DE COLOMBIA [MINTIC] [MINISTRY OF INFO. TECHS. & COMMS. OF COLOM.], <http://www.mintic.gov.co/portal/vivedigital/612/w3-propertyvalue-6106.html> (last visited Mar. 5, 2018) [https://perma.cc/N34C-ERWR].

2. *Iniciativas*, MINTIC, <http://www.mintic.gov.co/portal/vivedigital/612/w3-propertyname-509.html> (last visited Mar. 5, 2018) [https://perma.cc/R9QM-JWGF].

3. *Red Dorsal Nacional de Fibra Óptica*, MINISTERIO DE TRANSPORTES Y COMUNICACIONES [MINISTRY OF TRANSP. & COMMS.] (Perú), [https://www.mtc.gob.pe/comunicaciones/concesiones/red\\_dorsal/red\\_dorsal.html](https://www.mtc.gob.pe/comunicaciones/concesiones/red_dorsal/red_dorsal.html) (last visited Mar. 5, 2018) [https://perma.cc/45VY-T9KP].

4. Law No. 29904 art. 1, Julio 19, 2012, SISTEMA PERUANO DE INFORMACIÓN JURÍDICA [PERUVIAN SYS. OF LEGAL INFO.] (Perú), [http://transparencia.mtc.gob.pe/idm\\_docs/normas\\_legales/1\\_0\\_3532.pdf](http://transparencia.mtc.gob.pe/idm_docs/normas_legales/1_0_3532.pdf) [https://perma.cc/VB9F-XM4Q].

5. *Id.* art. 3.

6. Decreto por el que se reforman y adicionan diversas disposiciones de los artículos 6o., 7o., 27, 28, 73, 78, 94 y 105 de la Constitución Política de los Estados Unidos Mexicanos, en materia de telecomunicaciones, Artículo 28, Diario Oficial de la Federación [DOF] 11-06-2013 (Mex.).

7. Carlos Salinas de Gortari, *Telmex, Una Privatización Exitosa que Terminó Cuestionada*, EL FINANCIERO (Dec. 15, 2014) [hereinafter *Privatización Exitosa 1*], <http://www.elfinanciero.com.mx/economia/telmex-una-privatizacion-exitosa-que-termino-cuestionada.html> [https://perma.cc/L3MJ-8DPD].

8. Marcus Eyth, *The Telmex Saga Continues: Foreign Investors’ Expectations and Realizations in the Struggle to Compete in the Mexican Telecommunications Market*, 14 PACE

of privatization, Mexico lacked a strong regulatory agency, and as a consequence established a privately-owned monopoly.<sup>9</sup> In 2013, Mexico amended Article 28 of the Mexican Constitution, creating IFT, and imbued the new regulator with exclusive authority to regulate spectrum and enforce spectrum rights.<sup>10</sup> Specifically, IFT is responsible for overseeing the efficient development of broadcast and telecommunications; granting and revoking licenses; rulemaking to eliminate barriers to competition; and dissolving anti-competitive practices.<sup>11</sup>

To contextualize the potential of these policies to close the digital divide, we must first explore what the digital divide is, how it affects people who do not have access or have limited access to internet service, and what Universal Service means.

## II. EXPLAINING THE DIGITAL DIVIDE

Internet access is now seen as necessary for freedom of expression and basic participation in society, as well as a valuable tool to engage the public in democratic processes.<sup>12</sup> This perception received heightened recognition when the United Nations declared access to information, which includes broadband access, to be a fundamental human right.<sup>13</sup> In theory, access to this communication service enhances freedom of expression; access to information; access to national and global markets; and civic and social participation.<sup>14</sup> Therefore, individuals who do not have access to internet service miss out on the economic, social, and political benefits that connectivity offers. The gap between those with access and those without is called the digital divide.

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INT'L L. REV. 211, 217 (2012) [hereinafter *Eyth*], <https://digitalcommons.pace.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1196&context=pilr> [<https://perma.cc/RBU6-JNXW>].

9. Orquídea Soto, *El Día Después de la Reforma en Telecom*, FORBES MEX. (May 10, 2014, 6:45 AM), <http://www.forbes.com.mx/el-dia-despues-de-la-reforma-en-telecom/#gs.lbyT-Xo> [<https://perma.cc/3KRY-PDQA>].

10. Decreto por el que se reforman y adicionan diversas disposiciones de los artículos 6o., 7o., 27, 28, 73, 78, 94 y 105 de la Constitución Política de los Estados Unidos Mexicanos, en materia de telecomunicaciones, Artículo 28, Diario Oficial de la Federación [DOF] 11-06-2013 (Mex.).

11. *Id.*

12. See Press Release, General Assembly, 2d Comm., Closing Digital Divide Critical to Social, Economic Development, Delegates Say at Second Committee Debate on Information and Communications Technologies, U.N. Press Release GA/EF/3432 (Oct. 28, 2015) [hereinafter U.N. Debate on Closing the Digital Divide].

13. Human Rights Council Res., U.N. Doc. A/HRC/32/L20, at 3 (June 27, 2016). See Frank La Rue (Special Rapporteur), *Report of the Special Rapporteur on the Promotion and Protection of the Right to Freedom of Opinion and Expression*, ¶ 65, U.N. Doc. A/HRC/17/27 (May 16, 2011).

14. See U.N. Debate on Closing the Digital Divide, *supra* note 12.

### A. *What is Universal Service?*

Universal Service, as generally used, is the principle that every person must have access to receive and share digital information.<sup>15</sup> Internet service allows an individual to receive and share information with the world. Thus, access to internet service is the focus of Universal Service policies. In the United States, the Federal Communications Commission (FCC) defines Universal Service as “the principle that all Americans should have access to communications services.”<sup>16</sup>

To understand the *universality* of Universal Service, policymakers should consider the four interconnected components of access: (1) the ability to contract a company to bring internet service into one’s home; (2) the ability to afford the contract; (3) the ability to afford the devices that allow use of the internet service, such as a router, computer, tablet, or smartphone; and (4) the ability to use the service—which involves a variety of languages and formats that accommodate all individuals, including people with disabilities. Universal Service policies can address one or multiple of these components.

Because designing a single policy program to address every component of access is costly, it is common for separate policy programs to address only one component. For example, the United States’ Universal Service Fund (USF) provides funding to four separate programs, which each address one component of access. The Lifeline Program addresses the cost—it helps poor individuals pay for internet service.<sup>17</sup> The Connect America Fund addresses infrastructure—it helps telecommunications companies pay for cables, conduit, and hardware associated with bringing internet service to remote areas.<sup>18</sup> The Schools and Libraries Program and the Rural Health Care Program address access for specific populations.<sup>19</sup> The first helps schools and libraries pay for internet service, and the second focuses on hospitals and healthcare facilities.<sup>20</sup>

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15. *Universal Service*, FCC, <https://www.fcc.gov/general/universal-service> (last visited Mar. 5, 2018) [<https://perma.cc/B58Z-WFEB>].

16. *Id.*

17. See *Lifeline Program: Getting Started*, UNIVERSAL SERV. ADMIN. CO., <http://www.usac.org/li/about/process-overview/default.aspx> (last visited Mar. 5, 2018) [<https://perma.cc/5FDU-7QAH>].

18. *Universal Service for High Cost Areas—Connect America Fund*, FCC, <https://www.fcc.gov/general/universal-service-high-cost-areas-connect-america-fund> (last visited Mar. 5, 2018) [<https://perma.cc/EQ3S-7PFH>]. See *Connect America Fund*, UNIVERSAL SERV. ADMIN. CO., <http://www.usac.org/hc/join-the-program/step01/default.aspx> (last visited Mar. 5, 2018) [<https://perma.cc/4KS7-5S2U>].

19. See *Schools and Libraries Program: Getting Started*, UNIVERSAL SERV. ADMIN. CO., <http://www.usac.org/sl/about/getting-started/default.aspx> (last visited Mar. 5, 2018) [<https://perma.cc/8BZA-KFCQ>]; see also *Welcome to the Rural Healthcare Program*, UNIVERSAL SERV. ADMIN. CO., <http://www.usac.org/rhc/default.aspx> (last visited Mar. 5, 2018) [<https://perma.cc/W648-FNN3>].

20. *Id.*

### B. *Making a Case for “Developing Areas”*

Latin American countries are typically perceived as underdeveloped, while the United States is perceived as a fully-developed nation and a leader in the information society. This generalization ignores the “developing areas” that exist in both the United States and throughout Latin America. For example, at the time of this note’s writing, over 34 million Americans lacked access to broadband service.<sup>21</sup> Developing areas face common afflictions: they are poor; often are rural or remote locations; and lack basic infrastructure, such as roads, electricity, and public institutions (schools, hospitals, etc.). Explicitly focusing on developing areas allows us to see the similarities, beyond borders, in communities without broadband access or with subpar broadband access. Further, studying policies in developing areas could help us identify solutions occurring in some developing areas that could be implemented in others.

### C. *Comparing Access to Internet Service in Latin America and the United States*

By 2015, Mexico had 19.9 million landlines, a 3.7% increase from the previous year; 15 million fixed broadband subscribers, a 14.2% increase from the previous year; 107.7 million cellphone subscribers, a 2.5% increase from the previous year; and 63.6 million mobile broadband subscribers, a 9.9% increase from the previous year.<sup>22</sup> That same year, Colombia had 5.2 million broadband subscribers; 10.1 million broadband subscribers via its Vive Digital program, which built a National Fiber Optic Network connecting over 1000 municipalities; and 5.4 million mobile internet subscribers.<sup>23</sup>

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21. *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Dkt. No. 15-191, 2016 Broadband Progress Report, FCC 16-6 (adopted Jan. 28, 2016) (the FCC measured broadband as 25 Mbps down/3 Mbps up. Based on that metric, 34 million Americans, 39% living in rural areas, and 41% living on Tribal lands lacked access to broadband service. In February 2018, the FCC used the same metric and found that 24 million Americans still lacked service at those speeds.) [hereinafter 2016 Broadband Progress Report], [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-16-6A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-6A1.pdf) [<https://perma.cc/8FR4-TDGH>].

22. INSTITUTO FEDERAL DE TELECOMUNICACIONES, CUARTO INFORME TRIMESTRAL ESTADÍSTICO 2015 (May 12, 2016) (Mexico), [http://www.ift.org.mx/sites/default/files/informe\\_trimestral\\_4q\\_2015\\_version\\_habilitada\\_para\\_lector\\_de\\_pantalla\\_v3.pdf](http://www.ift.org.mx/sites/default/files/informe_trimestral_4q_2015_version_habilitada_para_lector_de_pantalla_v3.pdf) (while “broadband” is a term of art defined in a variety of ways, I use “broadband” when discussing access in Mexico because that is how the report discusses connectivity in the country. However, the report does not specify speed.) [<https://perma.cc/7ZTK-RNHQ>].

23. *Internet: Nacional*, MINTIC (Colom.), <http://estrategiacolombia.co/estadisticas/stats.php?id=5&jer=1&cod=> (last visited Mar. 5, 2018) [<https://perma.cc/4EUU-JZHQ>].

Meanwhile, 60% of Peru's population used mobile internet service,<sup>24</sup> and 51% of mobile phones accessed internet.<sup>25</sup> According to the National Institute of Information and Statistics, by the beginning of 2016, 54% of homes in Lima, Peru's capital and most populous urban area, had access to the internet.<sup>26</sup> However, connectivity was dismal in other parts of Peru, where only 31.7% of homes in smaller urban areas were connected to the internet, and only 1% of homes in rural areas were connected to the internet.<sup>27</sup>

Out of this group, the United States is the nation most experienced in allocating spectrum and in deploying infrastructure to extend communications services, such as the telegraph, radio, telephone, and internet to all its residents. However, the FCC's 2016 Broadband Progress Report, revealed that 34 million Americans lacked access to broadband service.<sup>28</sup> Most of these Americans live in hard-to-reach, rural, low-income areas. In fact, 39% of Americans living in rural areas and 41% of Americans living on tribal lands do not have access.<sup>29</sup>

The state of internet access in developing areas in Mexico, Colombia, Peru, and the United States contextualizes the strategy each country pursued to achieve Universal Service. Whether focusing on marginalized communities, building upon available resources, or strengthening the competence of its regulators, each country demonstrates an approach grounded in its circumstances and goals.

### III. THREE LATIN AMERICAN STRATEGIES TO ACHIEVE UNIVERSAL SERVICE

The following programs are examples of three strategies Latin American countries have adopted as part of their efforts to close the digital divide. While each country adopted and implemented at least one of these strategies, not every country has created a program for each. For example, although digital inclusion of marginalized

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24. *Penetración del Servicio de Internet Móvil (\*)*, OSIPTEL: EL REGULADOR DE LAS TELECOMUNICACIONES [OSIPTEL: The Supervising Organism of Private Investment in Telecommunications] (Perú), [https://www.osiptel.gob.pe/repositorioaps/data/1/1/1/par/63-suscripciones-de-internet-movil-segun-empresa/IntMovil\\_C6.3\\_Penetracion.pdf](https://www.osiptel.gob.pe/repositorioaps/data/1/1/1/par/63-suscripciones-de-internet-movil-segun-empresa/IntMovil_C6.3_Penetracion.pdf) (last visited Mar. 8, 2018) [<https://perma.cc/S4TP-666S>].

25. *Líneas Móviles que Accedieron a IM, Según Terminal Móvil*, OSIPTEL (Perú), [https://www.osiptel.gob.pe/repositorioaps/data/1/1/1/par/62-suscripciones-de-internet-movil-segun-modalid/IntMovil\\_C6.2\\_Terminal.pdf](https://www.osiptel.gob.pe/repositorioaps/data/1/1/1/par/62-suscripciones-de-internet-movil-segun-modalid/IntMovil_C6.2_Terminal.pdf) (last visited Mar. 8, 2018) [<https://perma.cc/X6RE-87WL>].

26. *Estadísticas de las Tecnologías de Información y Comunicación en los Hogares: Enero-Febrero-Marzo 2016*, 2 INFORME TÉCNICO, June 2016, at 3 (Perú), [https://www.inei.gob.pe/media/MenuRecursivo/boletines/informe-tecnico\\_tecnologias-informacion-ene-feb-mar2016.pdf](https://www.inei.gob.pe/media/MenuRecursivo/boletines/informe-tecnico_tecnologias-informacion-ene-feb-mar2016.pdf) [<https://perma.cc/2PC3-EK8D>].

27. *Id.*

28. See FCC, *supra* note 21. (in February 2018, the FCC released an updated report revealing that 24 million Americans still lack broadband access at speeds of 25 Mbps/3 Mbps).

29. *Id.*

populations is an underlying policy goal in all three countries, only Colombia and Mexico designed initiatives specifically to reach indigenous communities.<sup>30</sup> Choosing a policy strategy is a result of multiple variables, and a look at the history of telecommunications deployment and overall infrastructure development in each country helps us begin to understand each country's strategy.

#### A. *Digital Democracy and Inclusion in Colombia*

In June 2015, Colombia's president, Juan Manuel Santos, released a national plan of broad reforms designed to reinvigorate Colombia.<sup>31</sup> "All in Support of a New Country" is an ambitious policy undertaking to revamp the country from its difficult history of drug cartel violence and internal war with guerrilla groups in the 1980s and 1990s.<sup>32</sup> The plan is built on three pillars: peace, equity, and education.<sup>33</sup> Expanding telecommunications access, and more importantly, using telecommunications technologies to encourage social inclusion and public participation in democracy is a key component of the vision for the new Colombia. "Vive Digital," which roughly translates to "live digitally," is the telecommunications access plan of "All in Support of a New Country" that promises to revitalize Colombia.<sup>34</sup>

Vive Digital plans to "push towards democracy" by bringing internet service to Colombians.<sup>35</sup> True to its principle of engaging the public in democratic processes, citizens contributed to the design of the plan.<sup>36</sup> First, the President and the Ministry of Information and Communication Technologies ("MinTIC") proposed policy initiatives to develop access to technology in Colombia.<sup>37</sup> After the proposals were released, the MinTIC held public forums for consultation and comments on the policies.<sup>38</sup> The result was a plan with initiatives to

30. See *Conectividad de Alta Velocidad para el Amazonas, Orinoco y Chocó*, MINTIC, <http://www.mintic.gov.co/portal/vivedigital/612/w3-propertyvalue-7240.html> (last visited Mar. 5, 2018) (discussing Colombia's attempt to provide indigenous communities with high-speed, satellite, and/or terrestrial networks) [<https://perma.cc/3LXG-YVAJ>]; see also *¿Qué es México Conectado?*, MEX. CONECTADO, [http://www.mexicoconectado.gob.mx/?page\\_id=10572](http://www.mexicoconectado.gob.mx/?page_id=10572) (last visited Jun. 22, 2018) (discussing Mexico's guarantee of the constitutional right to access broadband Internet services) [<https://perma.cc/8X2S-B5E9>].

31. See L. 1753, junio 9, 2015, DIARIO OFICIAL [D.O.] (Colom.) (establishing the National Development Plan 2014–18 "All for a new country").

32. *Towards Sustainable Peace, Poverty Eradication, and Shared Prosperity: Columbia Policy Notes*, WORLD BANK, at xvii (Sept. 2014), <http://www.worldbank.org/content/dam/Worldbank/Feature%20Story/lac/Colombia%20Policy%20Notes%20Finalweb%20%20Sept%2024-2014.pdf> [<https://perma.cc/NGF3-FTK6>].

33. Richard H.K. Vietor, *With Peace, Colombia Is Poised for Greater Prosperity*, HARV. BUS. REV. (July 7, 2016), <https://hbr.org/2016/07/77-with-peace-colombia-poised-for-greater-prosperity> [<https://perma.cc/GL8L-2CQR>].

34. MINTIC, *supra* note 1.

35. *Id.*

36. *Id.*

37. *Id.*

38. *Id.*

increase access to jobs, civic participation online, education, and local and regional development.<sup>39</sup>

Vive Digital has four main tracks: Infrastructure, Services, Applications, and Users.<sup>40</sup> The Infrastructure track includes initiatives to build fiber across the nation, extend telecommunications infrastructure in rural areas, manage spectrum, increase digital connections, and build a national network dedicated to safety and emergency response during disasters.<sup>41</sup>

Initiatives in the Services track address mass-distribution of computers, tablets, and hardware for schools, libraries, and community centers; a program to subsidize internet and telephone service for low-income Colombians; strategies to encourage telecom service adoption in local government; and a study of the impact of the telecommunications sector on the environment.<sup>42</sup>

The Applications track focuses on incentivizing creation of digital applications for use in everyday tasks, and promoting their use.<sup>43</sup> For example, to promote telecommuting, Vive Digital collaborated with the Public Agency for Employment to create a website where Colombians can apply to jobs that allow workers to telecommute.<sup>44</sup> The Applications track also promotes online banking and digital commerce via cellphones.<sup>45</sup> This effort has the potential to help Colombians living in rural areas and engaged in agricultural businesses access national and international markets. To a country known around the world for its coffee, this is an important effort for its economic success.

Finally, Vive Digital's Users track is dedicated to teaching Colombians how to use telecommunications services.<sup>46</sup> The initiatives in this track offer free digital literacy classes; and train teachers in use of telecommunication technologies in the classroom to improve education at the local, university, and graduate levels.<sup>47</sup> One meaningful distinction in this track is the initiatives designed to engage Colombians with disabilities and from indigenous and marginalized communities.<sup>48</sup> Through a series of consultations with community members, the initiatives present telecommunications technologies as tools that help preserve the valuable language, culture,

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39. MINTIC, *supra* note 2.

40. *Id.*

41. *Id.*

42. *Id.*

43. *Id.*

44. AGENCIA PUBLICA DE EMPLEO, <https://agenciapublicadeempleo.sena.edu.co/> (last visited Feb. 28, 2018) [<https://perma.cc/7BSA-B94F>].

45. *Servicios Financieros Móviles*, MINTIC, <http://www.mintic.gov.co/portal/vivedigital/612/w3-propertyvalue-668.html> (last visited Feb. 28, 2016) [<https://perma.cc/Y5E7-3JEX>].

46. *Iniciativas*, *supra* note 2.

47. *Id.*

48. *TIC y comunidades étnicas*, MINTIC, <http://www.mintic.gov.co/portal/vivedigital/612/w3-propertyvalue-678.html> (last visited Mar. 12, 2018) [<https://perma.cc/8ZF9-67ZS>].

and knowledge of indigenous and Afro-Colombian communities.<sup>49</sup> This track is a comprehensive, learned digital literacy strategy to be emulated throughout the Americas.

Vive Digital is sophisticated and robust. Its potential lies in its mission to foster democratic participation and rebuild Colombia as an emerging leader in telecommunications in Latin America.

“Proyecto Nacional de Fibra Optica,” “Proyecto de Zonas de Alta Velocidad,” and “Kioskos Vive Digital” are examples of initiatives designed to bring telecommunications services and digital literacy to Colombia’s remote and marginalized communities.<sup>50</sup> The Proyecto Nacional de Fibra Optica (“National Fiber Optic Project”) deploys fiber throughout the country connecting municipal halls and other local government institutions.<sup>51</sup> In turn, these institutions are required to allow the public to access internet service free of cost for two years.<sup>52</sup> The initial goal of the project was to bring fiber to 700 municipalities across the country, and as of 2016, it had connected over 1,000 municipalities.<sup>53</sup>

The Proyecto de Zonas de Alta Velocidad (“High-Speed Zones Project”) reaches remote areas in the Colombian jungle via wireless networks and satellite technologies.<sup>54</sup> This initiative extends connectivity to the municipalities that were not within reach of the fiber project, including historically neglected communities in the Colombian jungle.<sup>55</sup> The project’s goal is to reach 27 municipalities and over 400,000 individuals.<sup>56</sup>

Kioskos Vive Digital are “kiosks” where community members can access the internet, take digital literacy tutorials, and use on-line government services.<sup>57</sup> The kiosk sites also provide other services to community members such as access to telephones, scanning, and copying.<sup>58</sup> Vive Digital plans to deploy over 7,600 kiosks throughout more than 5,000 rural and remote communities with more than 100 residents.<sup>59</sup> Kiosks are installed in places commonly frequented by the

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49. *See id.*; *see also* *TIC para personas con discapacidad*, MINTIC, <http://www.mintic.gov.co/portal/vivedigital/612/w3-propertyvalue-676.html> (last visited Mar. 12, 2018) [<https://perma.cc/FW48-AKNN>].

50. *Proyecto Nacional de Fibra Optica*, MINTIC <http://www.mintic.gov.co/portal/vivedigital/612/w3-propertyvalue-647.html> (last visited Feb. 28, 2018) [<https://perma.cc/QJK4-UNHZ>]; *Iniciativas*, *supra* note 39; *Usuarios, Kioskos Vive Digital*, MINTIC, <http://www.mintic.gov.co/portal/vivedigital/612/w3-propertyvalue-7059.html> (last visited Feb. 28, 2018) [<https://perma.cc/6GP3-UT8Y>].

51. *Proyecto Nacional de Fibra Optica*, *supra* note 50.

52. *Preguntas Frecuentes*, MINTIC, <http://www.mintic.gov.co/portal/604/w3-propertyvalue-12308.html> (last visited Feb. 28, 2018) [<https://perma.cc/N8EN-Q4NH>].

53. *Id.*

54. MINTIC, *supra* note 30.

55. *Id.*

56. *Id.*

57. MINTIC, *supra* note 50.

58. *Id.*

59. *Id.*

community, such as schools, pharmacies, stores, community centers, and even homes.<sup>60</sup>

Vive Digital's National Fiber Optic Project, High-Speed Zones Project, and kiosks are examples of initiatives that address barriers to access and, accompanied by other initiatives, collectively work to close the digital divide in Colombia. While a nation-wide fiber network is imperative to achieve Universal Service, it might not be feasible in every corner of the country. For the communities that are currently out of fiber-reach, the High-Speed Zones project is a good first step. However, the High-Speed Zones communities must eventually be connected to the fiber network if they are to receive robust broadband connectivity and not fall further behind their more populated counterparts. Finally, infrastructure is not the end of the game, but merely the beginning. A digitally-inclusive society requires a population that knows how to use digital technologies and creates meaningful uses for the technology in their daily lives.

The story of Mauricio, manager of the kiosk in the town of San Jose, in the rural state of Antioquia, is an example of meaningful use of telecommunications technologies.<sup>61</sup> When community members expressed disappointment that the kiosk was too far to visit, Mauricio and other kiosk users created a community TV channel to broadcast happenings from the kiosk to the entire community.<sup>62</sup> Today, Mauricio and his team visit community members to record their stories and report on floriculture business projects, the primary local industry.<sup>63</sup>

Vive Digital's YouTube channel contains many stories of community members like Mauricio that use the Kiosk in a way that is meaningful to their daily lives. From Huitoto Indians in the Amazon, who use the kiosk to share their culture, language, and knowledge with the world,<sup>64</sup> to guinea pig growers in the rural Santa Teresita valley that get information online to keep their groups healthy,<sup>65</sup> to fishermen in the Guajira coast that monitor the weather online before they set out to sea,<sup>66</sup> to World Wildlife Fund researchers that rely on internet connectivity to report on turtle population research,<sup>67</sup>

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60. *Id.*

61. MINTIC, *Kioscos Vive Digital benefician a las comunidades C5 - N1*, YOUTUBE (June 4, 2015), <https://www.youtube.com/watch?list=PLhTx9maDqE9J0eVQ7uEVxWGUxKsYZ4aOU&v=U7NJJnRzzFw> [<https://perma.cc/EPH9-JYBK>].

62. *Id.*

63. *Id.*

64. MINTIC, *Los Indigenas Huitoto tambien tienen su kiosco Vive Digital*, YOUTUBE (Dec. 22, 2014), [https://www.youtube.com/watch?v=O4oKL8\\_PqU0&index=7&list=PLhTx9maDqE9J0eVQ7uEVxWGUxKsYZ4aOU](https://www.youtube.com/watch?v=O4oKL8_PqU0&index=7&list=PLhTx9maDqE9J0eVQ7uEVxWGUxKsYZ4aOU) [<https://perma.cc/S8F3-ESP5>].

65. MINTIC, *En Santa Teresita internet fortalece la crianza de cuyes*, YOUTUBE (Dec. 11, 2014), <https://www.youtube.com/watch?v=lkLAcmRergs&index=2&list=PLhTx9maDqE9J0eVQ7uEVxWGUxKsYZ4aOU> [<https://perma.cc/PU53-Z64A>].

66. MINTIC, *Las TIC para una buena pesca en La Guajira - Vive Digital (C2-N5)*, YOUTUBE (May 3, 2015), <https://www.youtube.com/watch?v=alzOeIL8G5w&index=13&list=PLhTx9maDqE9J0eVQ7uEVxWGUxKsYZ4aOU> [<https://perma.cc/PK3A-TSCA>].

67. MINTIC, *supra* note 61.

Colombians have created meaningful uses for the technology and connectivity that kiosks have extended throughout the most rural areas of their country.

*B. Building Infrastructure for the Future in Peru*

No country would be able to provide broadband internet service to a majority of its population without robust, country-wide, telecommunications infrastructure. Thus, countries with limited infrastructure must invest in deployment and act creatively. Peru embraces a simple approach to infrastructure deployment—where public infrastructure already exists, a public telecommunications carrier has permission to use it free of charge.

In 2011, Peru's Ministry of Transportation and Communications (MTC) released its National Plan to Deploy Broadband in Peru.<sup>68</sup> The Plan encouraged the Peruvian government to achieve four specific goals by 2016: (1) deliver broadband connections of at least 2 Mbps to all education, healthcare, police, and governmental institutions in urban areas;<sup>69</sup> (2) deliver broadband speeds of at least 2 Mbps to all Peruvian districts in order to connect each [city hall] and at least the most visited public healthcare and education institutions in each district;<sup>70</sup> (3) achieve four million broadband connections nationwide;<sup>71</sup> and (4) achieve half a million high-speed broadband connections of 4 Mbps.<sup>72</sup> To achieve these goals, the Peruvian Plan recommended two specific objectives: propel the deployment of a backhaul network, and facilitate deployment of access networks.<sup>73</sup>

In 2012, the Peruvian Congress responded to these recommendations by passing Law No. 29904, titled "Promote Broadband and Build a National Fiber Optic Backbone Network."<sup>74</sup>

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68. GOBIERNO DE PERÚ, PLAN NACIONAL PARA EL DESARROLLO DE LA BANDA ANCHA EN EL PERÚ (2011), [https://www.mtc.gob.pe/portal/proyecto\\_banda\\_ancha/plan%20banda%20ancha%20vf.pdf](https://www.mtc.gob.pe/portal/proyecto_banda_ancha/plan%20banda%20ancha%20vf.pdf) [https://perma.cc/TA3U-ZPD9].

69. *Id.* at 157. [Original text: "Que el 100% de centros educativos y establecimientos de salud, comisarias, y otras entidades del Estado, en zonas urbanas cuento con conexiones de Banda Ancha, a una velocidad mínima de 2 Mbps." Translation: "Delivering broadband connection of at least 2 Mbps to 100% of education, healthcare, police, and governmental institutions in urban areas."].

70. *Id.* [Original text: "Que el 100% de los distritos del Perú cuenten con cobertura de Banda Ancha que como mínimo conecte a la municipalidad, a los centros educativos y establecimientos de salud públicos de mayor envergadura del distrito, a una velocidad mínima de 2 Mbps." Translation: "Delivering broadband speeds of at least 2 Mbps to 100% of Peruvian districts in order to connect each municipality [city hall] and at least the most visited public healthcare and education institutions in each district."].

71. *Id.* at 158–59. [Original text: "Alcanzar los 4 millones de conexiones de Banda Ancha a nivel nacional." Translation: "To achieve 4 million broadband connections nation-wide."].

72. *Id.* [Original text: "Alcanzar el medio millón de conexiones de Banda Ancha de alta velocidad, mayores a 4 Mbps." Translation: "To achieve half a million high-speed broadband connections of 4 Mbps."].

73. *Id.* at 163–64.

74. Law No. 29904, Julio 19, 2012, SISTEMA PERUANO DE INFORMACIÓN JURÍDICA [PERUVIAN SYS. OF LEGAL INFO.] (Perú), [http://transparencia.mtc.gob.pe/idm\\_docs/](http://transparencia.mtc.gob.pe/idm_docs/)

Law No. 29904, or “Red Dorsal,” is Peru’s blueprint to build a national fiber backbone network that reaches 180 provinces in 22 regions of the country.<sup>75</sup> Deployment of this network relies on strategic use of existent non-telecommunications infrastructure to achieve broadband deployment across the country.<sup>76</sup>

Title II of Red Dorsal outlines the overall infrastructure deployment strategy, and Chapter 2 of that title deals explicitly with the efficient use of already deployed infrastructure and public resources.<sup>77</sup> For example, Article 11 requires that the network be built on state-owned electricity, gas, oil, and transportation infrastructure, as long as it is feasible.<sup>78</sup> Article 12 specifies that fiber will be installed on Peru’s National Interconnected Electricity System network,<sup>79</sup> on the transportation networks for oil and gas,<sup>80</sup> and on railways,<sup>81</sup> while duct and chambers will be installed in all new road construction, including improvements to road infrastructure.<sup>82</sup> Article 12 further declares that the new fiber, duct, and chambers installed as a result of this law are property of the government.<sup>83</sup>

Article 13 requires public electricity, oil, and gas providers to permit access and use of their infrastructure to public telecommunications service providers.<sup>84</sup> The article explicitly defines infrastructure as posts, ducts, conduits, chambers, towers, rights of way, and fiber that is not currently in use.<sup>85</sup> Article 14 declares that the Ministry of Transportation and Communications will grant a free, nationwide right-of-way to deploy telecommunications networks that

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normas\_legales/1\_0\_3532.pdf [https://perma.cc/VB9F-XM4Q]. See also David Segundo Espinoza Aguilar, *Broadband Technology Roadmap for Rural Areas in the Andes and Amazon Regions of Peru*, 27 INTERDISC. TELECOMM. GRADUATE THESES & DISSERTATIONS 1, 40–49 (2017) [hereinafter *Espinoza*], https://scholar.colorado.edu/cgi/viewcontent.cgi?article=1027&context=tlen\_gradetds [https://perma.cc/N3SB-S2HS].

75. Law No. 29904, Julio 19, 2012, SISTEMA PERUANO DE INFORMACIÓN JURÍDICA [PERUVIAN SYS. OF LEGAL INFO.] (Perú), http://transparencia.mtc.gob.pe/idm\_docs/normas\_legales/1\_0\_3532.pdf [https://perma.cc/VB9F-XM4Q]. See OECD, OECD REVIEWS OF REGULATORY REFORM: REGULATORY POLICY IN PERU ASSEMBLING THE FRAMEWORK FOR REGULATORY QUALITY 148 (2016) (Peru is divided into 25 regions or departments; 196 provinces as sub-divisions of the regions; and over 1,800 districts). See also *Espinoza*, *supra* note 74, at 23.

76. See also *Espinoza*, *supra* note 74, at 42–44.

77. Law No. 29904 tit. II, Julio 19, 2012, SISTEMA PERUANO DE INFORMACIÓN JURÍDICA [PERUVIAN SYS. OF LEGAL INFO.] (Perú), http://transparencia.mtc.gob.pe/idm\_docs/normas\_legales/1\_0\_3532.pdf [https://perma.cc/VB9F-XM4Q].

78. *Id.* art. 11.

79. *Id.* art. 12. (specifically, the networks of two parts of the national system).

80. *Id.* art. 12.1(b).

81. *Id.* art. 12.1(d).

82. *Id.* art. 12.1(c).

83. *Id.* art. 12.4.

84. *Id.* art. 13.1.

85. *Id.* art. 13.3.

provide broadband access,<sup>86</sup> even where the necessary right-of-way crosses regional and local government jurisdictions.<sup>87</sup>

The articles mentioned above place public telecommunications carriers at the center of this national deployment effort. Peru's focus on the strategic use of existing electricity, gas, oil, and transportation infrastructure,<sup>88</sup> and on *who* is authorized to use existing infrastructure, is what makes the Red Dorsal law stand out. Peru seems to embrace a simple approach to infrastructure deployment: where public infrastructure exists, any public telecommunications carrier has permission to use it free of charge. By requiring that local non-telecommunications infrastructure be available to public entities that want to deploy service, Peru's government not only gets out of the way of national deployment efforts, but actively facilitates and enables deployment. Peru's approach diminishes one of the biggest challenges that bedevils developing areas: the cost of deploying infrastructure. In Peru, those who want to offer telecommunications services to the public encounter a friendlier regulatory environment, where existing infrastructure is leveraged and collaboration is encouraged.

### C. *Enforcing Competition in Mexico*

Mexico's Ley Telecom amended the Mexican Constitution to establish the Federal Institute of Telecommunications (IFT), a new telecommunications regulator. To fully appreciate the radical occurrence of this amendment, we must understand the controversial decision former President Salinas de Gortari made over 25 years ago when he championed the privatization of Telmex.

In a unique two-part opinion piece in one of Mexico's foremost economics newspapers, former President Salinas de Gortari discussed the path that led Mexico to privatize Telmex and create the IFT.<sup>89</sup> Salinas de Gortari blames the subsequent administration's failure to regulate for the resulting monopoly.<sup>90</sup> The former president claims that Telmex's privatization was part of "an ambitious reform process to transform the government and country via [the economic theory] of social liberalism."<sup>91</sup>

Teléfonos de México, "Telmex," was a state-owned and operated landline provider in Mexico.<sup>92</sup> Article 28 of the Mexican Constitution outlines the country's antitrust law, which exempts certain activities

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86. *Id.* art. 14(a).

87. *Id.* art. 14(b).

88. See Espinoza, *supra* note 74, at 43.

89. *Privatización Exitosa 1*, *supra* note 7.

90. *Id.*

91. *Id.*

92. Eyth, *supra* note 8.

performed exclusively by the government.<sup>93</sup> “Mail, telegraphs and radio-telegraphy, minerals . . . [and other activities]” were exclusive functions of the government, thus not subject to Article 28 antitrust regulations.<sup>94</sup>

During the time that Telmex operated as a state-owned monopoly, Mexicans waited two years for a landline to reach their home, and the Telecommunications sector only saw a per-capita investment of 16 dollars.<sup>95</sup> Amid growing foreign debt, deficit, and inflation, former President Salinas de Gortari saw privatization (not just of telecommunications, but across many sectors) as the solution to stabilize the country’s economy.<sup>96</sup> He decided that the government should prioritize education and health, but improving telephone service should be left to private investment, thus opening the door to privatize Telmex.<sup>97</sup> By 1994, Telmex was fully privatized. Grupo Carso, SBC, and France Telecom acquired the majority voting power, with Grupo Carso retaining a bigger interest.<sup>98</sup> To encourage the privatization, Telmex was granted monopoly on long-distance services until 1997, and on local service until 2026.<sup>99</sup>

Telmex’s sale was lauded as an example of the promise of privatization, a process that pledged to allow countries like Mexico to pay their debts and stabilize their economy.<sup>100</sup> Salinas de Gortari attests that the sale was transparent and facilitated by a public bidding process.<sup>101</sup> But the transaction fell out of favor and received harsh criticism from the international financial community.<sup>102</sup> In Salinas de Gortari’s words, “no matter how well-designed the reform, it fails in execution when government becomes complacent or accomplice to private monopolies.”<sup>103</sup>

93. Constitución Política de los Estados Unidos Mexicanos, CP, art. 28, Diario Oficial de la Federación [DOF] 05-02-1917, últimas reformas DOF 10-02-2014 (Mex.).

94. *Id.* [Original text: “No constituirán monopolios las funciones que el Estado ejerza de manera exclusiva en las siguientes áreas estratégicas: correos, telégrafos y radiotelegrafía; minerales radiactivos . . . así como las actividades que expresamente señalen las leyes que expida el Congreso de la Unión.” Translation: “The functions exclusively performed by the state, shall not be considered monopolies, in the following strategic areas: mail, telegraphs and telegraphy; radioactive minerals . . . as well as activities expressly indicated by laws enacted by Congress.”].

95. Carlos Salinas de Gortari, *Telmex, Una Privatización Exitosa que Terminó Cuestionada (2)*, EL FINANCIERO (Dec. 16, 2014) [hereinafter *Privatización Exitosa 2*], <http://www.elfinanciero.com.mx/economia/telmex-una-privatizacion-exitosa-que-termino-cuestionada-1.html> [<https://perma.cc/QP8D-TLBV>].

96. *Id.*

97. *Id.*

98. Eyth, *supra* note 8.

99. *Id.* at 217.

100. *Privatización Exitosa 1*, *supra* note 7.

101. *Privatización Exitosa 2*, *supra* note 95. See also Eyth, *supra* note 8.

102. *Privatización Exitosa 1*, *supra* note 7.

103. *Privatización Exitosa 2*, *supra* note 95. [Original text: “Por bien diseñada que esté una reforma, ésta fracasa durante su ejecución cuando los gobiernos se vuelven complacientes o cómplices de los monopolios privados.” Translation: “No matter how well-designed the

Telmex turned into a wholly owned subsidiary of América Móvil and came to control 80% of landlines and 70% of cellphones in Mexico, essentially establishing a privately-owned monopoly.<sup>104</sup> At first, Telmex played nice by pumping 24 dollars per capita of private investment into the telecommunications market and decreasing the wait for landline installation down to five days.<sup>105</sup> Salinas de Gortari claims that the environment was set to prevent Telmex from becoming a monopoly.<sup>106</sup> But in fact, Mexico waited two years before passing the Federal Competition Law that created an agency in charge of overseeing and enforcing competition rules.<sup>107</sup> In 1996, Cofetel, an ineffective regulator, took over and its ineptitude allowed Telmex to do as it pleased.<sup>108</sup> By 2010, Telmex only invested 7 dollars per capita, and rural states in the south of the country maintained the same telephone penetration of the previous 20 years.<sup>109</sup>

As the regulator tasked with overseeing the industry, Cofetel could have played an important role in antitrust law enforcement and used its authority to ensure that more companies would be able to enter the market to provide better services to Mexicans. Instead, this foray into privatization transformed Telmex from a state-held monopoly to a privately-held monopoly. The actions of a growing company facing no competition should have been closely monitored. Yet Cofetel remained on the sidelines and allowed Telmex to operate without requiring improvements in service, quality, or prices.<sup>110</sup> In this instance, privatization alone proved inadequate. Thus, in a radical (and perhaps desperate) move, current President Peña Nieto and the Mexican Congress amended the Constitution.<sup>111</sup>

In 2013, Mexico adopted the Reforma Constitucional en Materia de Telecomunicaciones, the Telecommunications Constitutional Reform or “Ley Telecom.”<sup>112</sup> After the negative privatization results, Mexico’s leaders sought to break up Telmex’s monopoly.<sup>113</sup> However, since Mexico’s antitrust law was not sufficiently strong on its own to

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reform, it fails in execution when government becomes complacent or accomplice to private monopolies.”].

104. Soto, *supra* note 9.

105. *Privatización Exitosa 2*, *supra* note 95.

106. *Id.*

107. *Privatización Exitosa 1*, *supra* note 7.

108. *Id.* See also Eyth, *supra* note 8, at 227, 239.

109. *Privatización Exitosa 2*, *supra* note 95.

110. Eyth, *supra* note 8, at 239.

111. Decreto por el que se reforman y adicionan diversas disposiciones de los artículos 6o., 7o., 27, 28, 73, 78, 94 y 105 de la Constitución Política de los Estados Unidos Mexicanos, en materia de telecomunicaciones, Artículo 28, Diario Oficial de la Federación [DOF] 11-06-2013 (Mex.).

112. *Id.*

113. Azam Ahmed, Randal C. Archibold, & Elisabeth Malkin, *Carlos Slim Tiene un Nuevo Rival: El Mismo Estado que le Ayudó a Crear su Fortuna*, N.Y. TIMES: ESPAÑOL (Aug. 9, 2016), <http://www.nytimes.com/es/2016/08/09/carlos-slim-tiene-un-nuevo-rival-el-mismo-estado-que-le-ayudo-a-crear-su-fortuna/> [https://perma.cc/73N9-NAWF].

impose regulations on Telmex, policy makers resorted to amend the law itself. This time, privatization would be tested alongside enforcement.

The reform added language into Article 28 that allowed for the dissolution of America Movil's monopoly, opened Mexico's telecom sector to new entrants (including foreign investors), and created a new regulatory agency that ousted the existing agency.<sup>114</sup> To amend Mexico's Constitution, two things must happen: (1) two-thirds of the Congress must agree, in person, to the proposed reforms, and (2) the reforms must be approved by a majority of state legislatures.<sup>115</sup> Despite the high standard of consensus for approval, President Peña Nieto and the 62nd Mexican Congress achieved approval of the historic reform.<sup>116</sup>

The new language of Article 28 created the IFT and established the processes by which this new regulator would ensure that competition drove prices down for Mexican consumers.<sup>117</sup> The IFT became a spectrum cop, overseeing the efficient development of broadcast and telecommunications, regulating access to essential services, granting and revoking licenses, drafting rules that eliminate barriers to competition, and ordering the dissolution of anti-competitive practices.<sup>118</sup> Further, Article 28 subjected Telmex, as the

114. Decreto por el que se reforman y adicionan diversas disposiciones de los artículos 6o., 7o., 27, 28, 73, 78, 94 y 105 de la Constitución Política de los Estados Unidos Mexicanos, en materia de telecomunicaciones, Artículo 28, Diario Oficial de la Federación [DOF] 11-06-2013 (Mex.).

115. Bernardo Bátiz V., *¿Quién Puede Reformar la Constitución?*, LAJORNADA (Nov. 18, 2013), <http://www.jornada.unam.mx/2013/11/18/opinion/021a2pol> [<https://perma.cc/MK6M-YUYB>].

116. *Promulga el Presidente Enrique Peña Nieto la Legislación Reglamentaria de la Reforma Constitucional en Materia de Telecomunicaciones*, GOB.MX (July 14, 2014) [hereinafter *Promulga de la Reforma Constitucional*], <http://www.gob.mx/presidencia/prensa/promulga-el-presidente-enrique-pena-nieto-la-legislacion-reglamentaria-de-la-reforma-constitucional-en-materia-de-telecomunicaciones> [<https://perma.cc/NQJ5-FHA7>].

117. *Id.*

118. *See* Decreto por el que se reforman y adicionan diversas disposiciones de los artículos 6o., 7o., 27, 28, 73, 78, 94 y 105 de la Constitución Política de los Estados Unidos Mexicanos, en materia de telecomunicaciones, Artículo 28, Diario Oficial de la Federación [DOF] 11-06-2013 (Mex.). [Original text:

"El Instituto Federal de Telecomunicaciones es un órgano autónomo ... que tiene por objeto el desarrollo eficiente de la radiodifusión y las telecomunicaciones ... tendrá a su cargo la regulación, promoción y supervisión del uso, aprovechamiento y explotación del espectro radioeléctrico... la autoridad en materia de competencia económica de los sectores de radiodifusión y telecomunicaciones... regulará ... con el objeto de eliminar eficazmente las barreras a la competencia y la libre concurrencia...El Instituto fijará el monto de las contraprestaciones por el otorgamiento de las concesiones, así como por la autorización de servicios vinculados a éstas ...La ley establecerá un esquema efectivo de sanciones que señale como causal de revocación del título de concesión, entre otras, el incumplimiento de las resoluciones que hayan quedado firmes en casos de conductas vinculadas con prácticas monopólicas..."

Translation:

"The Federal Institute of Telecommunications is an autonomous body. . .whose goal is the efficient development of radio broadcasting and telecommunications . . . it will be responsible for the regulation, promotion and supervision of the use of the radio spectrum

dominant telephony provider, to special rules.<sup>119</sup> Now, Telmex cannot charge smaller competitors for interconnecting with its network, and must share its infrastructure with competitors, including cellphone towers.<sup>120</sup>

In an official statement, President Peña Nieto stated that the reforms help Mexico “advance on the path of transformation, generate benefits and savings for families, and new opportunities for growth and economic development for the entire country.”<sup>121</sup> He believed the constitutional reform would “strengthen liberty; guarantee the right to freedom of expression, information, and interaction in telecommunications channels and social media; and encourage a Mexico with more opportunity,” where digital inclusion helps foment social inclusion and a more promising environment for business.<sup>122</sup>

Whether or not the constitutional reform actually manifests economic opportunity, increases access to telecommunications services, and fosters social inclusion and democratic engagement remains to be seen. IFT claims that three years after the reform, the telecommunications sector grew three times more than the overall Mexican economy, fixed and mobile phone service rates decreased by 23%, long distance charges were eliminated, international calling rates decreased by 40%, a nation-wide open TV network is about to launch, 4 out of 10 homes have internet access, over 75% of those homes have speeds of 10 mbps, and over 50% of Mexicans have internet access via

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... also be the authority in matters of competition in the broadcasting and telecommunications sectors ... to effectively eliminate barriers to free competition ... will determine the amount for granting concessions, as well as the authorization of services linked to these...establish an effective scheme of sanctions that indicates the cause of revocation of the concession ... in cases of conduct linked to monopolistic practices. . .”].

119. Ahmed, Archibold & Malkin, *supra* note 114.

120. *Id.*

121. *Promulga de la Reforma Constitucional*, *supra* note 116. [Original text: “México está avanzando por el camino de la transformación, generando beneficios y ahorros para las familias, así como nuevas oportunidades de crecimiento y desarrollo económico para todo el país.” Translation: “Mexico is advancing on the path of transformation, generating benefits and savings for families, as well as new opportunities for growth and economic development for the entire country.”].

122. *Id.* [Original text:

“Esta Reforma fortalece la libertad de los mexicanos, al asegurar el derecho a expresarnos, informarnos e interactuar en los medios electrónicos y las redes sociales; también promueve un México de mayores oportunidades al asegurar la inclusión digital, la integración de nuestras regiones, y el acceso de las personas con discapacidad a las telecomunicaciones; e impulsará la prosperidad del país, porque brindará mayor competitividad a negocios y empresas, atraerá grandes inversiones al sector; y lo más importante, apoya a la economía de las familias mexicanas.”

Translation:

“This Reform strengthens Mexicans’ liberty; by guaranteeing the right to expression, information, and interaction in telecommunications channels and social media; it also encourages a Mexico with more opportunity by guaranteeing digital inclusion, the integration of our regions, and access to telecommunications for people with disabilities; and it will propel the country’s prosperity because it will grant more competition for business and firms, attract big investors to the sector, and most importantly, will support the economy of Mexican families.”].

their cellphone.<sup>123</sup> In addition, there was an increase of 40% in bids for spectrum, and more spectrum access for market players, which IFT claims will result in cheaper prices for Mexicans.<sup>124</sup> The new regulations that Article 28 imposed have reduced America Movil's monopoly profits; although its owner, Carlos Slim, claims they force his company to subsidize large carriers like AT&T that claim to be small providers in Mexico.<sup>125</sup> Regardless, privatization implemented with the complimentary strong political will of regulators, has achieved one of its goals—increase the number of telecommunications providers in a country that had been under the tight grip of a monopoly carrier.<sup>126</sup>

Whether state or privately owned, a provider harnessing the majority of the market will only get as far as the regulators appointed by law will allow it. As in the early days of AT&T and Telmex, the regulators governing these companies thought that allowing the monopoly to exist benefited the public—until it did not. In fact, whether the existence of the monopoly harmed the public does not matter as much as whether the authorities in charge of regulating the monopoly believe its existence harms the public. Both in Mexico and in the United States, it took a federal government *willing* to intercede on behalf of consumers to halt AT&T and Telmex's anti-competitive practices. While it seems that Mexico's regulators are beginning to solidify their commitment to regulation, American companies seem to get more zealous about demanding deregulation from the FCC, even demanding the agency block state initiatives to enforce Net Neutrality rules.<sup>127</sup>

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123. INSTITUTO FEDERAL DE TELECOMUNICACIONES, *Logros a 3 Años de la Reforma Constitucional en Telecomunicaciones*, YOUTUBE (June 28, 2016), <https://www.youtube.com/watch?v=nMeYhkDU3bE> [<https://perma.cc/7BBH-8QCL>].

124. *Id.*

125. *Id.*

126. Umut Aydin, *Success and Limits of Competition Law and Policy in Developing Countries: Competition Law and Policy in Mexico: Successes and Challenges*, 79 LAW & CONTEMP. PROB. 155, 183 (2016). See also *Mexico Telecom Prices Fall after Reform Aimed at Curbing Slim*, REUTERS (Mar. 8, 2015), <https://www.reuters.com/article/mexico-telecommunications-prices/mexico-telecom-prices-fall-after-reform-aimed-at-curbing-slim-idUSL5N0WA0R220150308> [<https://perma.cc/6THC-JWRX>].

127. Jon Brodtkin, *Comcast Asks the FCC to Prohibit States from Enforcing Net Neutrality*, ARS TECHNICA (Nov. 3, 2017, 12:13 PM), <https://arstechnica.com/tech-policy/2017/11/comcast-asks-the-fcc-to-prohibit-states-from-enforcing-net-neutrality/> [<https://perma.cc/LK56-V4N9>].

#### IV. APPLYING LATIN AMERICAN LESSONS AS ACTIONABLE POLICIES IN THE UNITED STATES.

*“[W]hile broadband will not bring immediate economic transformation to rural America, regions that lack broadband will be crippled.”*<sup>128</sup> —Sharon Strover, Technology and Information Policy Institute, University of Texas at Austin.

Although the United States has attained substantial deployment of telecommunications infrastructure and access throughout its territory, it is still a long way from achieving Universal Service. In 2016, 34 million Americans lacked access to fixed 25 Mbps/3 Mbps broadband service.<sup>129</sup> Most of those affected lived in hard-to-reach, rural, and poor areas.<sup>130</sup> Specifically, 39% of Americans living in rural areas and 41% of Americans living on tribal lands did not have access.<sup>131</sup> This note was written with the aforementioned data in mind. However, at the time of publication, 24 million Americans still lacked service at those speeds.<sup>132</sup> These communities have been left behind by large carriers. Our statutory and ethical responsibility to these communities is to explore innovative solutions that close the digital divide. Can Latin American policies offer useful solutions to close the digital divide in developing areas of the United States? I submit that they can.

In this Section, I outline three ways in which we can apply the lessons from Latin America in the United States to finally achieve Universal Service: encourage individuals to incorporate broadband in their daily life; support municipal involvement in deploying broadband infrastructure; and maintain the strength of regulatory institutions. In the following pages, I will explain how these lessons translate into three actionable policies: (1) create a national digital literacy campaign; (2) overturn state laws that prohibit or limit municipalities from creating their own broadband networks; and (3) maintain regulations that protect consumers, such as Net Neutrality.

##### *A. Launching a National Digital Inclusion Campaign*

The lesson Colombia offers us is one that is somewhat familiar to the United States—to encourage Americans to incorporate technology

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128. *Scholars' Roundtable: The Effects of Expanding Broadband to Rural Areas*, CTR. FOR RURAL STRATEGIES (Apr. 2011), [https://moody.utexas.edu/sites/default/files/strover\\_1.pdf](https://moody.utexas.edu/sites/default/files/strover_1.pdf) [<https://perma.cc/4KE2-C5EN>].

129. 2016 Broadband Progress Report, *supra* note 21.

130. *Id.*

131. *Id.*

132. *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Dkt. No. 17-199, 2018 Broadband Deployment Report, FCC 18-10 (adopted Feb. 2, 2018). <https://docs.fcc.gov/public/attachments/FCC-18-10A1.pdf> [<https://perma.cc/27P6-TRSG>].

in their daily life. There was a time when not every American had electricity at home, especially if their home was in a rural area,<sup>133</sup> and more recently, a time when Americans had to learn how to make their old analog television pick up new digital signals.<sup>134</sup> Reminiscing about those distant and recent moments in the arch of American technological progress helps us recognize our own tradition of technological inclusion. I propose that the policy to be extracted from this lesson is to design, fund, and launch a National Digital Inclusion Campaign. This policy is not fully unfamiliar to American policymakers. In fact, the Rural Electrification Act of 1936<sup>135</sup> and the Digital Television Transition and Public Safety Act of 2005<sup>136</sup> provide a form of precedent.

In the case of electricity, the Rural Electrification Act (REA) created the Rural Electrification Administration and authorized it to make loans that would fund rural electrification and the furnishing of electric energy to persons in rural areas.<sup>137</sup> Further, the REA authorized the Administrator to “make . . . studies, investigations, and reports concerning the condition and progress of the electrification of rural areas . . . and to publish and disseminate information with respect thereto.”<sup>138</sup> Although neither the Act nor the Administration explicitly designed a nationwide campaign, the Administration commissioned a series of posters by artist Lester Beall that illustrated the benefits of electricity on the farm.<sup>139</sup> These posters helped rural Americans learn about the benefits of electrification and the various programs underway, such as discounts for refrigerators and electric appliances.<sup>140</sup>

In the case of television, while the Digital Television Transition (“DTV Transition”) and Public Safety Act designated federal funds to help Americans harness a new television technology, the Act did not explicitly mandate a national education campaign.<sup>141</sup> The Act declared

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133. *Rural Electrification Administration*, ROOSEVELT INSTITUTE, <http://rooseveltinstitute.org/rural-electrification-administration/> (last visited Jun. 23, 2018) [<https://perma.cc/5A88-BFTN>].

134. *1 Day Until DTV Transition: Focus at End of Technological Transition Is On People*, Press Release, FCC (June 11, 2009), [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-291357A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-291357A1.pdf) [<https://perma.cc/ADT9-WZDU>].

135. Rural Electrification Act of 1936, Pub. L. No. 74-605, 49, Stat. 1363 (1936).

136. Title III of the Deficit Reduction Act of 2005, Pub. L. No. 109-171, 120 Stat. 21 (2006), [https://www.ntia.doc.gov/legacy/otiahome/dtv/PL\\_109\\_171\\_TitleIII.pdf](https://www.ntia.doc.gov/legacy/otiahome/dtv/PL_109_171_TitleIII.pdf) [<https://perma.cc/R4PK-2BUC>].

137. Rural Electrification Act of 1936, *supra* note 135, § 2.

138. *Id.*

139. Pamela Popeson, *Lester Beall and the Rural Electrification Administration*, MOMA (Mar. 22, 2012), [https://www.moma.org/explore/inside\\_out/2012/03/22/lester-beall-and-the-rural-electrification-administration/](https://www.moma.org/explore/inside_out/2012/03/22/lester-beall-and-the-rural-electrification-administration/) [<https://perma.cc/8TSZ-7BJB>].

140. *Id.*; *TVA: Electricity for All, Rural Electrification*, *supra* note 135.

141. Digital Television Transition and Public Safety Act of 2005, Pub. L. No. 109-171, §§ 3001–13, 120 Stat. 4, 21–27 (codified in Title III of the Deficit Reduction Act of 2005, 47 U.S.C. § 309 (2006)).

that, effective February 18, 2009, the FCC must require television stations broadcasting in analog signals to stop, thus ushering in a new era of digital television broadcasting.<sup>142</sup> However, television viewers needed to be informed about this technological change.

While new television sets designed to receive digital signals were available on the market, a more affordable option was to connect an old analog television set to a “converter box” that would allow the old television to receive digital signals. Thus, the Act created the Digital-to-Analog-Converter Box Program to help “households in the United States . . . obtain coupons [for the] purchase of digital-to-analog converter boxes.”<sup>143</sup>

The Assistant Secretary for Communications and Information of the Department of Commerce, who also leads the National Telecommunications and Information Administration (NTIA), was in charge of implementing and administering the program.<sup>144</sup> The NTIA and the FCC were naturally involved in the DTV Transition because they oversee the management of spectrum, which allows for the provision of television service. As the agency tasked with regulating the television industry, the FCC also played an important role in consumer outreach and general industry compliance.<sup>145</sup>

However, by 2007, concerns surfaced about the uncoordinated efforts and insufficient funds appropriated to educate Americans about the impending change, and fear that vulnerable groups, like the elderly, would be left in the dark.<sup>146</sup> But even with the complications inherent in orchestrating a nationwide technological change, all stakeholders worked to educate America. FCC Commissioners went on tour to show how to connect a converter box,<sup>147</sup> day-time television shows hosted segments instructing their viewers how to connect a

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142. *Id.* § 3002(b).

143. *Id.* § 3005(a).

144. *Id.*; *Id.* § 3001(b); *Office of the Assistant Secretary (OAS), NAT'L TELECOMM. & INFO. ADMIN.*, <https://www.ntia.doc.gov/office/OAS> (last visited Feb. 27, 2018) [<https://perma.cc/62NC-LWQ7>].

145. *See generally Television*, FCC, <https://www.fcc.gov/media/television/television> (last visited Feb. 27, 2018) [<https://perma.cc/E6VD-MKTH>].

146. *See generally Preparing for the Digital Television Transition: Will Seniors be Left in the Dark? Hearing Before the Special Comm. on Aging*, 110<sup>th</sup> Cong. 110–345 (2007), <https://www.gpo.gov/fdsys/pkg/CHRG-110shrg40539/html/CHRG-110shrg40539.htm> [<https://perma.cc/9GNC-ZE2R>].

147. *See, e.g., Acting FCC Chairman Michael J. Copps to visit Los Angeles in the Homestretch Before The Digital Transition*, FCC (June 8, 2009), [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-291292A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-291292A1.pdf) [<https://perma.cc/K7Y7-FCRP>]; *see also Michael Coleman, FCC Hosts NM Meetings on Digital TV Switch, Offers Converter Box Coupons*, ALBUQUERQUE J. (Apr. 21, 2009, 9:37 PM), <https://www.abqjournal.com/18495/fcc-hosts-nm-meetings-on-digital-tv-switch-offers-converter-box-coupons.html> [<https://perma.cc/3857-VAFF>].

converter box,<sup>148</sup> and the Agency set up a TV Consumer Help Line that fielded over 900,000 calls in the first week of the transition.<sup>149</sup>

While Colombia encourages its citizens to “live digitally,” the United States has yet to launch a national, comprehensive, public campaign to encourage Americans to learn how to use telecommunications services. Some might say that this is not necessary given the prevalence of digital technology already present in everyday life. Others might say that non-profits, schools, and the private sector have covered the need for that campaign with their various initiatives. Others might contend that the Lifeline and E-rate Programs<sup>150</sup> serve that purpose, so we do not need to organize a nationwide campaign. While the work done until now is necessary and should be applauded, it is not sufficient. What about the 34 million Americans left without access to broadband?<sup>151</sup>

It is time we launch a concerted, fully-funded, National Digital Inclusion Campaign with two clear goals: (1) reach the millions of Americans that still do not have broadband access; and (2) inform all Americans of the important changes to their telephone service as a result of the Technology Transitions.<sup>152</sup>

If this is the first time you see the term “Technology Transitions,” you are in the majority. For years, telephone companies have been in the process of changing the technology they use to provide you with telephone service—a switch from copper to internet protocol technologies.<sup>153</sup> This change affects the functionality of telephone service, particularly access to 911 emergency services and the reliability of telephone service during natural disasters.<sup>154</sup> Because this

148. See, e.g., TELEMUNDO PUERTO RICO, *Dia a Dia*, YOUTUBE (Mar. 13, 2012), <https://www.youtube.com/watch?v=LmZsg3EnL3s> [<https://perma.cc/Y5FP-8QBX>]. See also, ABC, *Good Morning America*, YOUTUBE (Dec. 1, 2009), <https://www.youtube.com/watch?v=yUpsxxYUt5U> [<https://perma.cc/EQ4K-Q4PG>].

149. FCC *Continues DTV Outreach Across the Nation*, FCC (June 15, 2009), [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-291400A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-291400A1.pdf) [<https://perma.cc/NT7A-4GLK>].

150. See *Lifeline Program: Getting Started*, UNIVERSAL SERV. ADMIN. CO., <http://www.usac.org/li/about/process-overview/default.aspx> (last visited Feb. 27, 2018) [<https://perma.cc/2SNR-C5QG>]; see also *E-Rate Productivity Center*, UNIVERSAL SERV. ADMIN. CO., <http://www.usac.org/sl/tools/epc/default.aspx> (last visited Feb. 27, 2018) [<https://perma.cc/287C-TJKD>].

151. 2016 Broadband Progress Report, *supra* note 21.

152. See *National Network Upgrade*, PUB. KNOWLEDGE, <https://www.publicknowledge.org/issues/tech-transitions> (last visited Feb. 27, 2018) [<https://perma.cc/3SDC-7NST>].

153. See generally *In the Matter of Technology Transitions*, GN Dkt. No. 13-5, WC Dkt. No. 05-25, Report & Order, FCC 15-97 (adopted August 6, 2015), [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-15-97A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-97A1.pdf) [<https://perma.cc/CHJ5-KMZY>].

154. Tom Wheeler, *Technology Transitions: Consumers Matter Most*, FCC BLOG (Oct. 31, 2014), <https://www.fcc.gov/news-events/blog/2014/10/31/technology-transitions-consumers-matter-most> [<https://perma.cc/2DA2-6AEK>]; Edyael Casaperalta, *The Impact of Technology Transitions on Rural Communities*, PUB. KNOWLEDGE (May 11, 2015), <https://www.publicknowledge.org/news-blog/blogs/the-impact-of-technology-transitions-on-rural-communities> [<https://perma.cc/QZ34-X76D>].

change in technology implicates emergency services that Americans have come to rely on, a national awareness and education campaign should be organized to inform the public. As a country, we have experience encouraging Americans to adopt new technologies on a national scale.<sup>155</sup> We also have experience managing robust funding mechanisms to ensure that financial hardship is not the reason why Americans refrain from adopting new technologies.<sup>156</sup> Most importantly, we have experienced the political will to ensure that every single American has access to and can benefit from new technologies. The question today is: do American policymakers have that conviction now?

### B. *Municipal Broadband in the United States*

Municipal broadband can help to achieve Universal Service, if the government can get out of its own way. The Peruvian government's Red Dorsal law cleared obstacles for all interested in deploying telecommunications infrastructure. In contrast, some state governments in the United States obstruct municipal governments—whose communities have subpar or no internet service—from deploying this infrastructure themselves. One example of this obstruction is state legislation that blocks or severely limits the ability of municipalities to create their own broadband networks.<sup>157</sup> In order to close the digital divide, state governments should *engage* municipalities in the complex and collective process of building telecommunications infrastructure. The key question for both federal and state policymakers is this: does a policy limit municipalities or does it facilitate their involvement and leadership?

Over 20 states in this country have approved laws that prohibit or severely limit municipal governments from creating and operating their own broadband networks.<sup>158</sup> Restrictive state laws hinder the achievement of Universal Service, especially in areas that are remote, have smaller populations, and have little access to high-speed internet. During the Obama administration, the FCC directly addressed this issue in an order that preempted these state laws.<sup>159</sup>

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155. See discussion *supra* Section II.A.

156. See discussion *supra* Section II.A.

157. Jason Koebler, *The 21 Laws States Use to Crush Broadband Competition*, MOTHERBOARD (Jan. 14, 2015, 4:16 PM), <http://motherboard.vice.com/read/the-21-laws-states-use-to-crush-broadband-competition> [https://perma.cc/J9TP-5HVS].

158. *Id.*

159. See generally *City of Wilson, N. Carolina Petition for Preemption of a Portion of North Carolina Gen. Statute Sections 160A-340 and the Elec. Power Board of Chattanooga, Tennessee Petition for Preemption of a Portion of Tennessee Code Annotated Section 7-52-601*, WC Dkt. Nos. 14-115, 14-116, Memorandum Opinion & Order, FCC 15-25 (adopted Feb. 26, 2015) [hereinafter *Municipal Broadband Order*], [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-15-25A1\\_Rcd.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-25A1_Rcd.pdf) [https://perma.cc/3ECS-9M3F].

In 2014, two municipal broadband providers, the Electric Power Board of Chattanooga in Tennessee (EPB) and the City of Wilson in North Carolina (“Greenlight”) petitioned the FCC to allow them to provide services outside of their territory.<sup>160</sup> A grant of the petitions would override their respective state’s restrictions on municipal broadband.

EPB is a publicly-owned electric power provider and was the first internet service provider (ISP) in the country to offer gigabit speeds to residential customers.<sup>161</sup> Two Tennessee laws served to limit municipalities from offering internet services to new customers. Although municipal electric systems like EPB are allowed to provide telecommunications services anywhere in the state, section 7-55-601(a) of the Tennessee Code restricts these systems from providing those services outside of their assigned electric service area.<sup>162</sup> In addition, section 7-59-316 of the Code restricted municipalities that do not operate electric systems to providing telecommunications services in “historically unserved areas” and only when in collaboration with the private sector.<sup>163</sup>

The City of Wilson in North Carolina owns and operates Greenlight, a fiber optic network that offers telecommunications services.<sup>164</sup> North Carolina enacted House Bill 129 into law in 2011,<sup>165</sup> which imposes numerous restrictions on municipalities that want to provide telecommunications services in the state.<sup>166</sup> These restrictions work to prevent municipalities from offering broadband service outside of their counties, even when the contested area is within the municipality’s electric service territory.<sup>167</sup>

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160. *Petition of the City of Wilson, N. Carolina, Pursuant to Section 706 of the Telecomm. Act of 1996, for Removal of Barriers to Broadband Inv. and Competition and Petition of the Electric Power Board of Chattanooga, Tennessee, Pursuant to Section 706 of the Telecomm. Act of 1996, for Removal of Barriers to Broadband Inv. and Competition*, WC Dkt. Nos. 14-115, 14-116, Order, DA 14-1246 (adopted Aug. 27, 2014), [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-14-1246A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-14-1246A1.pdf) [<https://perma.cc/SC63-F4BJ>].

161. EPB, <https://epb.com/> (last visited Feb. 27, 2018) [<https://perma.cc/86GY-YZDC>]; Municipal Broadband Order, *supra* note 159, ¶ 22.

162. TENN. CODE ANN. § 7-52-601(a) (2010); Municipal Broadband Order, *supra* note 159, ¶ 27.

163. TENN. CODE ANN. § 7-59-316; Municipal Broadband Order, *supra* note 159, ¶ 28.

164. GREENLIGHT COMMUNITY BROADBAND, <http://www.greenlightnc.com/> (last visited Feb. 27, 2018) [<https://perma.cc/82LZ-RCBB>]; Municipal Broadband Order, *supra* note 159, ¶ 33.

165. Act of May 21, 2011, H.B. 129, 2011 N.C. Sess. Laws 84 (codified at N.C. GEN STAT. § 160A-340 (2012)) [hereinafter H.B. 129], <http://www.ncga.state.nc.us/Sessions/2011/Bills/House/PDF/H129v7.pdf> [<https://perma.cc/2VND-LMRE>].

166. Municipal Broadband Order, *supra* note 159, ¶ 38; H.B. 129, *supra* note 165. The term “communications service” is defined in section 160A-340 as “[t]he provision of cable, video programming, telecommunications, broadband, or high-speed Internet access service to the public, or any sector of the public, for a fee, regardless of the technology used to deliver the service.” H.B. 129, *supra* note 165.

167. Municipal Broadband Order, *supra* note 159, ¶ 38; H.B. 129, *supra* note 165.

The FCC found that the laws in both states prevented broadband deployment and hindered competition.<sup>168</sup> In Tennessee, it found that section 601 restricted the territory where municipalities could provide services.<sup>169</sup> In North Carolina, it found that H.B. 129 restricted municipalities by raising economic costs,<sup>170</sup> imposing delays,<sup>171</sup> and requiring obligations that supposedly leveled the playing field for all providers but in reality served to offer preference to large telecommunications carriers.<sup>172</sup>

In addition, the FCC found that both EPB and Wilson could meet the broadband service needs of communities outside of their service territory that were not served by other providers.<sup>173</sup> Thus, pursuant to Section 706 of the Telecommunications Act of 1996, the FCC granted the EPB and Wilson petitions to provide broadband service beyond their service areas.<sup>174</sup> Section 706 allows the FCC to “remove barriers to infrastructure investment” in the delivery of advanced telecommunications services to all Americans.<sup>175</sup> This decision specifically preempted the laws in Tennessee and North Carolina, but the FCC also expressed its intention to “preempt similar statutory provisions in factual situations where [laws] function as barriers to broadband investment and competition.”<sup>176</sup>

By approving the EPB and Greenlight petitions, the agency did not order state governments to make municipalities the only broadband provider in a service territory. In fact, the FCC did not prohibit any other provider from competing in their service territory; it merely allowed municipal providers to enter the state-wide market.<sup>177</sup> The FCC encouraged competition by allowing *more* competitors, in this case municipalities, to enter the market.<sup>178</sup> However, in court, this reasoning proved unsuccessful.

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168. Municipal Broadband Order, *supra* note 159, ¶¶ 5, 29, 30, 39, 40.

169. *Id.* ¶ 77.

170. *Id.* ¶¶ 82–84.

171. *Id.* ¶¶ 88–92.

172. *Id.* ¶¶ 85–87.

173. *Id.* ¶¶ 29–30, 39–40.

174. *Id.* ¶¶ 6–7, 10–11.

175. 47 U.S.C. § 1302 (2012).

“The Commission and each State commission with regulatory jurisdiction over telecommunications services shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans (including, in particular, elementary and secondary schools and classrooms) by utilizing, in a manner consistent with the public interest, convenience, and necessity, price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment.”

176. Municipal Broadband Order, *supra* note 159, ¶ 16.

177. *Id.* ¶¶ 80, 120.

178. *Id.* ¶¶ 74, 80.

Tennessee brought suit against the agency, claiming the agency “unlawfully inserted itself” into state matters.<sup>179</sup> The Court of Appeals for the Sixth Circuit reversed the agency’s order relying on the Supreme Court ruling in *Nixon v. Missouri Municipal League*, which held that a federal preemption that results in “interposing federal authority between a State and its municipal subdivisions” must come from a clear directive by Congress.<sup>180</sup> The Sixth Circuit held that the FCC order “re-allocated decision-making power between the states and their municipalities” and that such a reallocation of power required a “clear statement” from Congress in the federal legislation.<sup>181</sup>

For a brief time, the FCC order cleared the barriers municipalities face in deploying telecommunications infrastructure. However, some states fought to roll back the FCC’s progress and continued to block municipal engagement. These states showed that they did not see municipalities as integral actors to achieve Universal Service, but as entities upsetting the dominance of large carriers. This approach to restrain deployment contrasts Peru’s efforts to encourage deployment. The right approach is not to override local governments, but to engage them in developing a collective vision of the digital future. Laws that block or limit municipal engagement must be overturned. State policymakers and the current FCC should heed Peru’s lesson: clear hurdles so that municipalities can strengthen the national infrastructure from the ground up.

### C. *Maintaining Regulation of Telecommunications Providers*

The lesson from Latin America that the United States is most familiar with is industry regulation. While the change to Mexico’s Constitution signals a new era of telecommunications regulation for the country, the United States is well versed in this arena. Mexico, nevertheless, serves as a cautionary tale of having a regulator that only pays lip service to its mission. Without the commitment of an agency tasked with regulating the telecommunications industry, consumers suffer. It is a worthwhile exercise to consider how this cautionary tale could apply in a country experienced in regulation, like the United States. I contend that one actionable policy from this lesson is to reinstate Network Neutrality rules.

In 2014, the FCC continued a query that had been debated since 2010—how to protect the Open Internet.<sup>182</sup> The Open Internet is the

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179. Petition for review can be found at the following webpage: <https://muninetworks.org/content/tennessee-files-appeal-fcc-order-scaling-back-state-barriers> [<https://perma.cc/2U6G-9DDL>].

180. *Nixon v. Missouri Municipal League*, 541 U.S. 125, 140 (2004).

181. *Tennessee v. FCC*, 832 F.3d 597, 600 (6th Cir. 2016).

182. See *Protecting and Promoting the Open Internet*, GN Docket No. 14-28, Notice of Proposed Rulemaking, 29 FCC Rcd 5561 (2014) [2014 Open Internet NPRM].

internet we currently have—one where new market entrants compete on par with established competitors, where all can express their opinions freely, and where innovative ideas find fertile ground. To protect this environment of openness, the Commission considered establishing rules based on the principle of Network Neutrality.<sup>183</sup> Net Neutrality promotes the internet as a neutral network that treats all information equally and does not grant preferential treatment to any one website. Because this neutrality fosters openness, ISPs should not be allowed to sell specialty lanes to websites, applications, or streaming services that can pay to deliver their content faster. Although most ISPs observed network neutrality, the profit incentives to sell fast lanes was very attractive.<sup>184</sup> Thus, the FCC sought to establish clear rules that would *ex ante* prohibit this behavior.

In its 2015 Open Internet Order, the FCC classified internet service as a telecommunications service subject to regulation under Title II of the Telecommunications Act of 1996.<sup>185</sup> Classifying internet service as a telecommunications service gave the Commission strong legal ground to exercise oversight of ISPs in order to establish resilient Net Neutrality rules.<sup>186</sup> The FCC received nearly four million comments<sup>187</sup> and decided on four key rules: (1) ISPs are required to be transparent with customers;<sup>188</sup> (2) ISPs cannot block a user from accessing lawful content;<sup>189</sup> (3) ISPs shall not throttle or degrade internet content;<sup>190</sup> and (4) ISPs shall not engage in paid prioritization.<sup>191</sup> Further, the FCC created an exception to these rules for “reasonable network management.”<sup>192</sup> Although the Commission chose to forbear from key Title II provisions that would have allowed it to regulate the cost of internet service and establish a base price that the majority of Americans could afford,<sup>193</sup> the initial application of Title II provided the agency more stable legal footing to protect consumers in the future. But with political change came a change in support for Net Neutrality. Under the Trump administration, the FCC voted to repeal the Net Neutrality rules in December 2017, two years after they had been

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183. *Id.*

184. *Protecting and Promoting the Open Internet*, GN. Dkt. No. 14-28, Report & Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd. 5601, 5604 n.6 (2015) (At the trial where Verizon challenged the FCC’s 2010 Open Internet rules, the company admitted that if it was not for those rules, it would pursue agreements to charge certain content providers for priority service).

185. *See id.*

186. *Id.* ¶ 5.

187. *Id.* ¶ 6.

188. *Id.* ¶ 23.

189. *Id.* ¶ 15.

190. *Id.* ¶ 16.

191. *Id.* ¶ 18.

192. *Id.* ¶ 32. This exception applies to all of the rules except Paid prioritization, which the FCC determined was not “a means of managing a network.”

193. *Id.* ¶¶ 37–40.

adopted.<sup>194</sup> A cascade of lawsuits were filed to challenge the decision, members of Congress have put forth bills to reverse the FCC action, and even some states have pledged to enforce the rules within their boundaries.<sup>195</sup>

In the United States, government intervention has been an important component of ensuring that telecommunications services reach Americans. For example, the carefully crafted break-up of AT&T helped facilitate innovation and competition. The FCC's effort to establish durable network neutrality rules is another example of carefully crafted government intervention to benefit the public.<sup>196</sup> However, government intervention does not happen on its own; it requires political will. The progress achieved thus far requires the continued commitment of policymakers who see important public value in regulating the industry. Without meaningful oversight, as in the Mexico case, the market alone does not serve all customers. While metropolitan areas may enjoy competition in the broadband market, rural communities and Indian Country are left behind.<sup>197</sup> For Americans that live in developing areas, government intervention is life-changing. To close the digital divide and achieve Universal Service, a nation needs all hands on deck, including the regulatory hand of government.

#### D. *Special Concern: Protecting the Lifeline Program*

The policies expressed above are worthy goals and should be pursued by policymakers and supported by public interest advocates. However, one pressing issue looms: the future of the Lifeline program. The Lifeline program is perhaps the most important initiative to close the digital divide because it directly helps people who are on the wrong side of the divide.

Since 1985, Lifeline has helped qualifying low-income Americans pay for telephone service.<sup>198</sup> In 2005, in the aftermath of Hurricane

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194. See *Restoring Internet Freedom*, WC Docket No. 17-108, Declaratory Ruling, Report & Order, and Order, FCC 17-166 (2017).

195. Tali Arbel, *Wave of Lawsuits Filed to Block Net-Neutrality Repeal*, WASH. POST (Jan. 16, 2018), <https://www.apnews.com/13de8d0c79bf4c4baf8c4675de183f83/Wave-of-lawsuits-filed-to-block-net-neutrality-repeal> [https://perma.cc/46VA-2Z4P]. See also Sean Captain, *Snubbing FCC, States Are Writing Their Own Net Neutrality Laws*, FASTCOMPANY (Jan. 2, 2018), <https://www.fastcompany.com/40510095/snubbing-fcc-states-are-writing-their-own-net-neutrality-laws> [https://perma.cc/W69X-R5EE].

196. And in the case of network neutrality rules, that the public emphatically requested.

197. Frederick L. Pilot, *Analysis: Internet Access—an Incomplete Promise*, DAILY YONDER (June 1, 2016), <http://www.dailyyonder.com/analysis-internet-access-an-incomplete-promise/2016/06/01/13162/> [https://perma.cc/5BB7-4UBV].

198. *Lifeline Program for Low-Income Consumers*, FCC, (May 7, 2018) <https://www.fcc.gov/general/lifeline-program-low-income-consumers> [https://perma.cc/WB76-JS67].

Katrina, the program was expanded to include cellphone service.<sup>199</sup> And in 2016, the FCC included internet service.<sup>200</sup> However, the program has received harsh criticism for fraud and abuse.<sup>201</sup>

Throughout his career at the FCC, Chairman Ajit Pai has criticized what he sees as waste, fraud, and abuse in the Lifeline Program.<sup>202</sup> His proposals include limiting the tribal-land subsidy (which is higher than the Lifeline subsidy awarded to Americans living outside of tribal lands) to be available only in tribal lands with low population density; capping the program and limiting its spending; and prohibiting carriers from giving away free phone service to Lifeline recipients.<sup>203</sup> Adding fuel to this contested issue, a Government Accountability Report found that it was unable to confirm whether 1.2 million of the 3.5 million Lifeline recipients it reviewed actually qualified to receive service under the program.<sup>204</sup> In November 2017, the Commission voted along party lines to limit Lifeline funding<sup>205</sup>—a move that has been harshly criticized.<sup>206</sup>

Advocates contend Lifeline must be protected because it directly addresses one of the most difficult and persistent barriers to adoption of broadband service—price.<sup>207</sup> Lifeline's importance lies, they claim, in the fact that it is the only program that helps low-income Americans afford phone and internet service.<sup>208</sup> Congressional representatives, and Democratic FCC Commissioners are joining efforts to defend the program, calling the change in policy a “war on the poor.”<sup>209</sup> Even

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199. David Honig, *The Truth About Lifeline*, HUFFINGTON POST (May 13, 2013), [http://www.huffingtonpost.com/david-honig/the-truth-about-lifeline\\_b\\_3266143.html](http://www.huffingtonpost.com/david-honig/the-truth-about-lifeline_b_3266143.html) [<https://perma.cc/VNZ3-PKT3>].

200. *Lifeline and Link Up Reform and Modernization*, Third Report and Order, Further Report and Order, and Order on Reconsideration, FCC Rcd. 16-38 (2016).

201. *See, e.g., id.* at 202.

202. *Id.*

203. *Id.*

204. GAO, *Telecommunications: Additional Action Needed to Address Significant Risks in FCC's Lifeline Program* (May 2017), <https://www.gao.gov/products/GAO-17-538> [<https://perma.cc/RSK3-7734>] (summary page).

205. Ali Breland, *FCC Votes to Limit Program Funding Internet Access for Low-Income Communities*, THE HILL (Nov. 11, 2017, 8:00 PM), <http://thehill.com/policy/technology/360818-fcc-moves-to-limit-program-funding-internet-access-for-low-income> [<https://perma.cc/DKJ4-28CL>].

206. Jon Brodtkin, *Ajit Pai's Supporters Say He's Gone Too Far with Plan That Hurts Poor People*, ARS TECHNICA (Mar. 5, 2018, 1:55 PM), <https://arstechnica.com/tech-policy/2018/03/even-isps-hate-ajit-pais-plan-to-take-broadband-choice-away-from-poor-people/> [<https://perma.cc/44A3-GN53>].

207. Andrew Perrin & Maeva Duggan, *American's Internet Access: 2000–2015*, PEW RESEARCH CTR. (June 26, 2015), <http://www.pewinternet.org/2015/06/26/americans-internet-access-2000-2015/> [<https://perma.cc/H6HF-TBH7>].

208. Brian Fung, *This Low-Cost Phone and Internet Program Wastes Millions in Federal Funding, Auditors Say*, WASH. POST (June 29, 2017), [http://wapo.st/2slniHv?tid=ss\\_tw&utm\\_term=.ed0d118a6629](http://wapo.st/2slniHv?tid=ss_tw&utm_term=.ed0d118a6629) (quoting Carmen Scurato, Policy Director at the National Hispanic Media Coalition) [<https://perma.cc/6EWE-2Q9L>].

209. *Advisory: Congressional Briefing on the FCC's War on the Poor*, FREE PRESS (Mar. 7, 2018), <https://www.freepress.net/press-release/108674/advisory-congressional-briefing-fccs-war-poor> [<https://perma.cc/79TH-9XMK>].

established industry competitors like Sprint have expressed concerns with the rollback of Lifeline.<sup>210</sup>

Lifeline is the most human component of our Universal Service approach. It is the most immediate strategy to close the digital divide. Advocates for the poor and Americans living in developing areas should continue their vital work to protect the program, and policymakers should listen to public calls to allow this program to flourish.

## CONCLUSION

In order to truly achieve *Universal Service*, a government must address all the hurdles its population faces to access internet service. Colombia, Peru, and Mexico offer us three lessons to pursue Universal Service: promote digital inclusion and encourage individuals to incorporate broadband in their daily lives; support municipal involvement in deploying broadband infrastructure; and maintain the strength of regulatory institutions. Applied in the United States, these lessons can turn into three actionable policies: (1) create a national digital literacy campaign; (2) overturn state laws that prohibit or limit municipalities from creating their own broadband networks; and (3) maintain regulations that protect consumers such as Net Neutrality.

A single approach is not sufficient in developing areas. To truly eradicate the digital divide, we need all hands on deck. We need programs that promote digital inclusion and help poor individuals pay for basic telecommunications services. We need municipal government to fill in the local service gap that larger absentee-carriers will not fill. We need a strong regulator to defend Net Neutrality rules that protect consumers and spark innovation. Meaningful government support has proven to be helpful in our nation's telecommunications growth ushering new eras of innovation and consumer protections. Most importantly, we need the commitment and perseverance of our policymakers to ensure that the promise of the digital age reaches every single American. We are in the home stretch of closing the digital divide. While the communities that remain are the most vulnerable and the hardest to serve, our commitment to fulfill the congressional mandate "to encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to **all** Americans" must not waiver.

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210. *Sprint Opposes Lifeline Wireless Reseller Ban*, NAT'L LIFELINE ASSOC. (Feb. 20, 2018), <https://www.nalalifeline.org/member-news/sprint-opposes-fcc-lifeline-wireless-reseller-ban/> [https://perma.cc/R583-9PYY].

