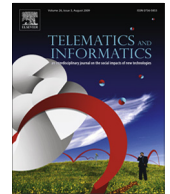




ELSEVIER

Contents lists available at ScienceDirect

Telematics and Informatics

journal homepage: www.elsevier.com/locate/tele

Urban governance and big corporations in the digital economy: An investigation of socio-spatial implications of Google Fiber in Kansas City



Tooran Alizadeh^a, Tony H. Grubestic^{b,*}, Edward Helderop^c

^a Faculty of Architecture, Design and Planning, The University of Sydney, Sydney, New South Wales, Australia

^b Center for Spatial Reasoning & Policy Analytics, College of Public Service & Community Solutions, Arizona State University, Phoenix, AZ, USA

^c Center for Spatial Reasoning and Policy Analytics, School of Geographical Sciences and Urban Planning, Arizona State University, Tempe, AZ, USA

ARTICLE INFO

Article history:

Received 23 March 2017

Accepted 23 April 2017

Available online 26 April 2017

Keywords:

Google Fiber

Digital divide

Spatial equity

Broadband

Urban governance

Kansas City

ABSTRACT

In February 2010, Google challenged US cities to compete for being the site of its first attempt at building ultra-high-speed fiber-to-the-premises (FTTP) network, promising speeds up to one hundred times faster than pre-existing broadband services. More than 1100 cities applied. Kansas City, however, was announced as the winner of the competition. This paper explores the rollout of Google Fiber in Kansas City from three different perspectives. First, we provide a close examination of urban governance and the Fiber project – highlighting numerous regulatory concessions and incentives provided to Fiber during the construction phase. Second, we explore the ways in which pre-existing digital divides and socio-economic inequalities impacted the Fiber plan for Kansas City. Finally, in an effort to better understand the geographic intricacies of Fiber service, this paper uses a novel data mining technique and exploratory spatial data analysis to highlight the provision footprints for two counties in the Kansas City metropolitan area. We conclude with a discussion of the salient policy implications of projects like Fiber for urban governance, highlighting both the promises and stark realities of such ventures.

© 2017 Elsevier Ltd. All rights reserved.

1. Introduction

Urban research has long argued that public infrastructure is a powerful driver of economic growth and social prosperity (Aschauer, 1989; Button et al., 1995; Gramlich, 1994; Seitz, 1995). Increasingly, broadband is viewed as a mission-critical infrastructure element that serves as a foundation for interconnecting infrastructure systems, managing energy, engaging government, delivering health care, as well as providing access to education resources, disseminating knowledge and motivating social organization (Alizadeh, 2015; Freeman et al., 2016; Mack, 2014; Mack and Grubestic, 2014; Norris and Reddick, 2013; Tucker, 2010; Whitacre and Rhinesmith, 2016; World Bank, 2009).

Over the last ten to fifteen years, several national governments including the UK (Galloway, 2007), S. Korea (Kelly et al., 2003; Speta, 2004), and Australia (Alizadeh, 2013; Alizadeh et al., 2014) have undertaken substantial direct government investment in broadband infrastructure. A few other countries such as the United States (Ford and Koutsky, 2005; Grubestic, 2015) and Finland (Eskelinena et al., 2008) have established competition policies, and created incentives for universal service programs to increase the speed and the coverage area of their otherwise market-forced broadband plans.

* Corresponding author.

E-mail address: grubestic@asu.edu (T.H. Grubestic).

Where the U.S. is concerned, in early 2009, Congress directed the Federal Communications Commission (FCC) to develop a National Broadband Plan (NBP) (FCC, 2010). The goal of the NBP was to ensure that every American had access to affordable broadband, to advance innovation, civic participation, public safety and homeland security, community development, health care delivery, energy efficiency, education, and employment opportunities. The NBP provided a strategic path to help ensure a leadership position for the United States in broadband innovation, but it was also a good example of how government can influence the broadband ecosystem, more generally, by calling for the efficient allocation and use of government owned and government-influenced assets in the development of the new infrastructure.

In addition to these federal strategies, there is a growing line of argument that suggests the transformative forces driving growth and innovation in the broadband ecosystem for the United States were not initiated or foreseen by any government strategy or policy (Bauer, 2015; Crandall and Waverman, 2010; Santorelli, 2010). More specifically, it has been suggested that developments in the private sector, such as Google Fiber (Fiber), are central to advancing broadband in the U.S. (Campbell, 2012). Interestingly, the Fiber project was nearly contemporaneous with the release of the NBP.

From a scholarly point of view, Google's ongoing interests in broadband deployment is part of a new urban discourse involving global digital corporations – such as Siemens, IBM, and Cisco – and their partnership with city governance around the world (Alizadeh, 2017; McNeill, 2015; Paroutis et al., 2014; Shelton et al., 2015). A particular focus has been on how the digital firms have tried to influence urban governments, while engaging in providing philanthropic services directly to them (Kitchin, 2015; Wiig and Wyly, 2016). Critics suggest that cities are made to speak the language of corporations, and firms gain so much out of their involvement that do not fit with a pure pro bono, philanthropic model (Hack, 2013; McNeill, 2016). Opponents, however, argue that in the midst of fast-paced technological change, urban governments need support to compete in the new economy, and have no other alternatives (Meijer et al., 2016; Neirotti et al., 2014) – especially in the absence of strategic and sustainable support from national governments (Alizadeh and Shearer, 2015). The question is, how comingled should local governments become with large digital corporations; and where should the lines be drawn?

In an effort to explore the inherent complexities of these public/private partnerships, this paper focuses on Google Fiber as it presents a complex case of transformation of urban infrastructure involving a giant digital corporation. Specifically, the purpose of this paper is to explore the socio-spatial and policy implications of Fiber for Kansas City – the first of its kind in the U.S. Three different facets are explored. First, we provide a close examination of urban governance and the Fiber project – highlighting numerous and sometimes perplexing regulatory concessions and incentives provided to Google during the construction phase of the project in Kansas City. Second, we explore the ways in which pre-existing digital divides and socio-economic inequalities impacted the Fiber plan for Kansas City. Finally, in an effort to better understand Google's rollout strategy and the geographic intricacies of Fiber service, this paper uses a novel data mining technique and exploratory spatial data analysis to highlight the provision footprints for two counties in the Kansas City metropolitan area. We conclude this paper with a discussion of the salient policy implications of projects like Fiber for urban development efforts, highlighting both the promises and stark realities of such ventures.

2. Google Fiber cities

In February 2010, Google challenged cities across the United States (Google Blog, 2010b) to compete for being the site of its first attempt at building ultra-high-speed fiber-to-the-premises network (FTTP), up to one hundred times faster than any pre-existing service in the country. Cities interested in hosting Fiber had approximately one month to fill out forms, organize campaigns, create Facebook pages, stage elaborate stunts, undergo temporary transformations (such as Topeka, Kansas, changing its name to Google, Kansas), upload YouTube videos, collect signatures, and present their demand for Google's services (Halegoua, 2014). More than 1100 cities applied (Google Blog, 2010a). In March 2011, Kansas City, Kansas was selected as the winner of the competition and this selection was expanded to include Kansas City, Missouri and many of the suburban communities in the Kansas City metropolitan area (Kansas City, 2011).

When Fiber started in Kansas City, it was difficult to determine how serious the search giant was about disrupting the existing broadband service model in the United States (Campbell, 2012). But in 2013, Google expanded the experiment to Austin, Texas and Provo, Utah, and the possibility began to emerge that Fiber had a larger scale strategy, even if it was only targeting a handful of cities (Dale, 2015). Then, in 2014, Google suddenly looked very serious about Fiber when it announced expansion plans to 34 additional locations.

The honeymoon phase, however, did not last long for Google Fiber. In August 2015, Google announced its intention to restructure the company, moving into a new umbrella corporation, Alphabet Inc. As part of this restructuring plan, Google Fiber became a subsidiary of Alphabet. This was then followed with numerous commentary pieces in the media (Kleeman, 2016; McLaughlin, 2016) suggesting that Google Fiber did not reach its subscription targets (Pressman, 2016a); and therefore was under pressure by Alphabet to reduce staff numbers by half, limit the scope of the project and the number of cities involved (Williams, 2017), and change its delivery platform possibly to wireless (Pressman, 2016b). There were also reports about the possibility of leaving the Fiber project altogether (Levy, 2016). Recent estimates suggest that the Access division of Alphabet which is responsible for the planning and oversight of Google Fiber lost nearly \$3.6 billion in 2016 (Fiegerman, 2016). A huge portion of these losses have been attributed to the efforts associated with Fiber (Levy, 2016). Aside from the significant capital and overhead costs associated with the rollout, competition from other broadband providers in Kansas City is significant, carving into Fiber's subscriber base (Canon, 2017).

Download English Version:

<https://daneshyari.com/en/article/6889946>

Download Persian Version:

<https://daneshyari.com/article/6889946>

[Daneshyari.com](https://daneshyari.com)