

**Before the
Federal Communications Commission**

In the Matter of

**Applications of Comcast Corp.
and Time Warner Cable, Inc.**

**For Consent to Assign and
Transfer Control of FCC
Licenses and Other
Authorizations**

GN Docket 14-57

Reply Comments of Engine

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I. Intro and Executive Summary

The future of American innovation depends on a robust, high-speed Internet infrastructure. The unparalleled growth of the nation's technology sector has been a boon for the economy throughout the country and the world. Here in the United States, startup companies—new, high-growth firms—are responsible for all new net job growth. These companies are leading the economic recovery in cities all over the nation, not just in the Bay Area and New York. As a matter of policy, we need to encourage the creation and growth of these startup companies.

One key way to promote startup activity is by ensuring a level, competitive playing field. The proposed merger threatens to disrupt that balance and competition by giving one company control over more than half of every high-speed broadband connection in the nation. Giving such power to a single Internet service provider (ISP) puts the future of American broadband in the hands of a company that has time and time again exploited its already-significant terminating access monopoly power to stifle competition and give its vertically integrated content businesses advantages over rival startups.

As more business activity migrates online and technology becomes even more omnipresent in daily life, access to competitive, fast broadband networks is crucial to our ability to compete in the global technology sector. Our country already lags well behind industrialized peers in Internet speed and cost, due in large part to a lack of competition in broadband markets. Contrary to Comcast's stunning claims in its opposition to the many petitions to deny filed in this docket that the merger will

somehow promote competition and prompt Comcast to build the next-generation high-speed networks it has already declined to build, the proposed merger will only exacerbate the competition problems in the market for high-speed broadband. Only competition between rival providers will provide adequate incentives to build networks that are competitive with international peers. The merger will plainly remove this competitive dynamic, as Comcast—the largest ISP in the country—will swallow up the second largest ISP, removing from the market its most obvious potential rival. The investment disincentives this merger presents will have long range, dangerous impacts on U.S. broadband speeds and, by extension, startups that depend on competitive networks to survive. Allowing the proposed merger to proceed threatens to put American startups, so important to the growth of the nation's economy, at a potentially insurmountable disadvantage to rivals in countries with national telecommunications policies that actually promote the development of competitive high-speed broadband networks.

II. About Engine

Engine is a non-profit advocacy and research organization that represents a community of more than 500 entrepreneurial startups, pioneers, innovators, investors, and technologists. The startups we represent are among the most innovative and fastest growing companies in the country, fundamentally altering and challenging entrenched business models, ideas, and institutions across all industries. These are the businesses that drive our economic prosperity, create jobs, and improve our lives. We have worked with the White House, Congress, federal agencies, state and local

governments, and international advocacy organizations to educate and inform them of the changing face of American high-tech entrepreneurship.

Our network includes Meetup, Etsy, Yelp, and Automattic. It also includes smaller startups such as Code Combat, WellDone, MentorMe, and Imgur. Our Advisory Board includes some of the nation's most influential venture capitalists and investors, including Brad Feld, John Lilly, and Ron Conway.

III. Startup Companies Are Driving our Economic Recovery

When a few bright engineers or business students have an idea, they can launch a business that can be available to billions of users all over the world, inexpensively, and without discrimination. These founders take risks, forego stable jobs, and seek investment from friends, family, and institutional investors to face the pressure of failing or succeeding on the merits of their idea, engineering, user design, and industry knowledge. While some might fail—most startups do—the few that wildly succeed benefit millions of consumers, create thousands of jobs, create world-changing technologies, and power the innovation ecosystem.

This engine of innovation is only possible because today's founders—eventual failures and eventual successes alike—can take the first steps and can compete against incumbents at extremely low cost. The costs are often merely the expense of hard work, low-cost cloud computing tools, and off-the-shelf laptops and mobile devices. These costs generally go down each year per unit of computing power, and competitive markets pass on those cost savings to technology companies. Startups typically pay the (falling) competitive costs of technologies rather than above-cost extraction by companies with termination monopolies.

As one investor explained in a *Wall Street Journal* op-ed, the cost of running a basic internet application fell from \$150,000 a month in 2000 to \$1,500 a month in 2011. That is a 99 percent drop in price.¹ Because of competitive markets, the cost savings in components and services have been passed onto those applications and consumers, accelerating innovation and cost savings.

The competitive startup market has been a boon for the American economy, as technology entrepreneurs have created massive global economic value and jobs. Research by Engine shows that “[d]uring the last three decades, the high-tech sector was 23 percent more likely and [information and communication technology] 48 percent more likely than the private sector as a whole to witness a new business formation.”² The high-tech jobs that are created by these businesses account for 5.6 percent of the job market in the United States.³ These jobs are not in Silicon Valley alone. They are in states, cities, and towns across the country, from Los Angeles to Kansas City, from Nashville to Washington, DC. As of 2011, Washington state had the highest concentration of tech jobs (11.4 percent of employment), followed by Massachusetts (9.4 percent), Virginia (9.3 percent), and Maryland (8.9 percent).⁴

Additionally, these tech jobs spur further job creation and stimulate the local economy even beyond the jobs created in technology, as tech workers spend money

¹ Marc Andreessen, “Why Software Is Eating The World,” *The Wall Street Journal*, Aug. 20, 2011, available at <http://on.wsj.com/1gt4wRH>.

² Ian Hathaway, “Tech Starts: High-Technology Business Formation and Job Creation in the United States,” Kauffman Foundation, Aug. 2013, at 2 available at: <http://engine.is/research/technology-starts-report-2013>.

³ Ian Hathaway, “High-Tech Employment and Wages in the United States,” Bay Area Council Economic Institute, Dec. 2012 at 10, available at: <http://www.bayareaeconomy.org/media/files/pdf/TechReport.pdf>.

⁴ *Id.* at 10.

locally, creating more jobs.⁵ This impact is global, not national. According to McKinsey & Co., the Internet economy represents 3.4 percent of the global GDP.⁶

While we used to speak of a “tech sector,” technology is now an input into every industry, no less than electricity. We once shopped Borders for books; we now shop Amazon and rent ebooks through Oyster. We once rented films at Blockbuster; we now watch on Netflix and YouTube. We once had the option of several hotel chains; we can now use Airbnb to rent the homes of strangers—from castles to igloos—with even more variety. We could take Michael Sandel’s Justice class or Andrew Ng’s Machine Learning courses only if we could get accepted into (and afford) Harvard and Stanford; now, we can now take these classes online through EdX and Coursera, without obstacles. We once relied on annual doctor visits; we can now book those visits more conveniently through ZocDoc, and keep healthy between visits with the help of “quantified self” applications and hardware, including MyFitnessPal, Fitbit, and the Nike Fuelband. Consumers used to pay one another with cash; now they can send money through Paypal, Square, Venmo, and Dwolla. They spend not only dollars but bitcoins. Our ready-to-eat meals were in grocery stores’ frozen food sections; now, companies like Plated and SpoonRocket enable customers to order local meals delivered to our homes.

Beyond the technologies consumer see, enterprise applications transform businesses. Marketo and Salesforce make sales organizations and buyers more

⁵ *Id.* at 12. (“For each job created in the local high-tech sector, approximately 4.3 jobs are created in the local non-tradable sector in the long run.”)

⁶ Matthieu Pélissié du Rausas, James Manyika, Eric Hazan, Jacques Bughin, Michael Chui, Rémi Said, “Internet matters: The Net’s sweeping impact on growth, jobs, and prosperity,” McKinsey & Company (May 2011), available at: http://www.mckinsey.com/insights/high_tech_telecoms_Internet/Internet_matters at p.11-12. (This 2009 estimate is based on a study of 13 countries: G8 countries, as well as China, India, Brazil, Sweden, and South Korea.)

efficient. Companies like Wal-Mart, FedEx, and United Airlines use software to manage distribution, pricing, and optimization. Oil and gas companies use networked computing and big data to guide their gas exploration.⁷ Agriculture today relies on Internet connections for farmers to maximize output and minimize costs.⁸

Finally, innovation has enabled and revolutionized freedom of expression, and broadened access to information. While we used to get our news from the one newspaper in town and TV news, we can now access newspapers, news clips, and analysis from all over the world. Anyone can have a blog on WordPress or Medium, a microblog on Tumblr or Twitter, and share the writings of others easily through social media. While these tools often begin in the United States, they spread to foreign nations, where they empower activists to organize politically.

IV. A Merger Between Comcast and Time Warner Cable Would Harm Startups, Consumers, and Competition

Competition in the edge provider market resulted in a robust market for applications and has driven the demand for greater broadband services. But, if the United States is to maintain its status at the forefront of the Internet economy, competition at the edge is not enough; there must also be robust competition in the market for Internet connectivity. The U.S. lags well behind its industrialized peers in Internet speed and cost, due in large part to a lack of competition in the broadband

⁷ Marc Andreessen, "Why Software Is Eating The World," The Wall Street Journal, Aug. 20, 2011, available at: <http://on.wsj.com/1gt4wRH> (subscription req'd).

⁸ Mediacom Expression of Interest, WC Docket No. 10-90, (Mar. 7, 2014), available at: <http://apps.fcc.gov/ecfs/document/view?id=7521089654>.

market.⁹ ISPs have tacitly divided up the country, refusing to compete in each others' markets. Indeed, Comcast and Time Warner have cited this lack of geographic competition as an argument in favor of the merger:

Some of the commenters fail to account for the most important economic reality of these transactions – that Comcast, Time Warner Cable, and Charter do not compete in any market, which means that there will be no reduction in competition or consumer choice for any of the services we offer.¹⁰

Lack of competition harms startups in several obvious ways. For one, a lack of competition diminishes ISP incentives to increase speeds and lower costs. Having limited bandwidth necessarily limits the pool of innovative technologies startups can employ. ISPs have already throttled two enormous advances in Internet technology—BitTorrent¹¹ and online video¹²—on the grounds that they consumed too much bandwidth. If ISPs don't have the incentives to increase speed and bandwidth, the next wave of innovative technologies will be created outside the United States.

And, as the throttling of BitTorrent and Netflix demonstrates, a combined Comcast and Time Warner have an enormous capacity to damage startup activity through exploiting terminating access monopoly power to discriminate against startups.

⁹ Nick Russo, Robert Morgus, Danielle Kehl, Sarah Morris, New America Foundation, "The Cost of Connectivity 2014," Oct. 30, 2014. Available at: <http://www.newamerica.org/oti/the-cost-of-connectivity-2014/>.

¹⁰ David L. Cohen, "Comcast Files Opposition and Response Comments on Time Warner Cable Transaction," Comcast, Sept. 24, 2014. Available at: <http://corporate.comcast.com/comcast-voices/comcast-files-opposition-and-response-comments-on-time-warner-cable-transaction>.

¹¹ See https://apps.fcc.gov/edocs_public/attachmatch/DOC-284286A1.pdf.

¹² Chris Morran, "Netflix Agrees To Pay Comcast To End Slowdown," The Consumerist, Feb. 23, 2014. Available at: <http://consumerist.com/2014/02/23/netflix-agrees-to-pay-comcast-to-end-slowdown/>.

A combined Comcast/TWC would control access to majority of U.S. high-speed Internet subscribers. Startups that cannot access these Comcast/TWC customers at competitive speeds will simply not be able to compete with entrenched interests that can. This is particularly true because the resulting behemoth will be not just an ISP, but also a content company, and will view many startups as a threat to its business model. Comcast has already used its position as an ISP to give an advantage to its content subsidiaries over smaller rivals.¹³

Simply put, allowing Comcast and Time Warner to combine may put the future of American innovation at risk. A combined Comcast/TWC will have terminating access monopoly control over a majority of U.S. high-speed broadband providers, giving it gatekeeper power over a user base that any competitive startup will need to access to survive. And, Comcast will face little to no broadband competition in any of its geographic markets, diminishing its incentives to build next generation networks that startups will increasingly depend on to compete on the world stage.

a. Allowing the Merger to Proceed Will Exacerbate Problems with Competition Amongst U.S. Broadband Providers

As Chairman Wheeler recognized recently in a speech about the future of broadband in America, the state of competition in U.S. broadband markets is dire. In the market for high-speed broadband, consumers have almost no competitive options. Nearly 80 percent of U.S. households have only one ISP option to access speeds of 25

¹³ Shalini Ramachandran, "Comcast Takes the Netflix Fight to College Campuses," The Wall Street Journal, Aug. 21, 2014. Available at: <http://blogs.wsj.com/corporate-intelligence/2014/08/21/comcast-takes-the-netflix-fight-to-college-campuses/>

Mbps, if they have access to such speeds at all.¹⁴ At 50Mbps, it's even more dire—82.5 percent have zero or one provider for access at that speed.¹⁵ When considering the present and future viability of the U.S. broadband market, it is crucial to use these speeds as a baseline. As Chairman Wheeler said, “10 Mbps doesn't fully capture the increasing demand for better wired broadband,” as a “25 Mbps connection is fast becoming ‘table stakes’ in 21st century communications.”¹⁶

Given this troubling lack of competition, the FCC should focus on dismantling—not increasing—broadband provider concentration. Allowing Comcast and Time Warner Cable to merge will only worsen the problem. A combined Comcast and Time Warner would control a massive share of the U.S. broadband market, namely 41 percent of subscribers at speeds of 10 Mbps or greater and over half of subscribers at 50 Mbps or greater.¹⁷ Of households that have access to 10 Mbps speeds or greater, 36 percent would have only one option: Comcast/TWC.¹⁸ When the speeds get above 50 Mbps, 59 percent of households will only have access to Comcast/TWC.¹⁹

b. A Combined Comcast/Time Warner Cable Would Have Significant Terminating Access Monopoly Power Over Subscribers and Would Likely Use That Power to Harm Startups

As Comcast is fond of pointing out, Comcast and Time Warner Cable do not currently compete in any geographic areas. As such, consumers in areas controlled by

¹⁴Tom Wheeler, Remarks, FCC, The Facts and Future of Broadband Competition (Sept. 4, 2014), Available at: http://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db0904/DOC-329161A1.pdf at p. 2

¹⁵ *Id.*

¹⁶ *Id.* at pp. 2-3.

¹⁷ Petition to Deny of Free Press, Docket No. 14-57 (Aug. 25, 2014) at p. 18. Available at: http://www.freepress.net/sites/default/files/resources/Free%20Press_14-57_Petition%20to%20Deny_Final.pdf

¹⁸ *Id.* at p. 20.

¹⁹ *Id.*

Comcast and Time Warner do not have any practical ability to switch providers, which will give Comcast strong control over each of those individual customers. Any company that wants access to a high-speed broadband customer in Comcast/TWC's markets must go through Comcast/TWC, as must any startup who wants access to high-speed broadband itself. This terminating access monopoly power allows ISPs to serve as gatekeepers, and Comcast has proven willing to exercise this monopoly power to disadvantage startups and consumers.

i. Comcast/TWC Can Use Its Terminating Access Power To Extract Rents from Edge Providers Through Throttling or Blocking

Earlier this year, Comcast subscribers were starting to see decreased speeds when accessing Netflix, a popular online video site.²⁰ Comcast was essentially holding Netflix traffic hostage, refusing to upgrade interconnection points where Netflix traffic passed onto Comcast's network, though such added interconnection capacity constituted a marginal expense.²¹ Comcast argued that Netflix was seeking to use its network for free and refused to upgrade its interconnection points to handle increased Netflix traffic in order to make Netflix pay for the added bandwidth that Comcast's own customers were demanding.²²

Comcast's dispute with Netflix demonstrates the problem of increased terminating access monopoly power. If Comcast is allowed to control over half of all high-speed broadband customers, any startup that wants to survive must play by

²⁰ *Supra*, at n. 12.

²¹ Mark Taylor, "Verizon's Accidental Mea Culpa," Level 3 Communications, July 17, 2013. Available at: <http://blog.level3.com/open-internet/verizons-accidental-mea-culpa/> (noting minimal cost of upgrading interconnection points).

²² Jennifer Khoury, "Comcast Response to Netflix," Comcast, April 24, 2014. Available at: <http://corporate.comcast.com/comcast-voices/comcast-response-to-netflix>.

Comcast's rules. A startup is faced with a stark choice: acquiesce to Comcast's demands for payment or forego half of the entire U.S. market. Needless to say, such a predicament will make competition impossible for a small startup trying to gain traction in the marketplace, stifling the startup before it even gets a chance to succeed. This Commission has, time and again, stated its intention to help incentivize and protect competition—something that the President also recognizes. When talking about net neutrality, President Obama discussed the importance of protecting “the next Google or the next Facebook.”²³ These competitive considerations are just as important in thinking about a potential combined Comcast/Time Warner as in thinking about net neutrality.

If, as in the case of Netflix, the choice is to pay up or suffer decreased performance, the results are just as grim. If a startup's site does not load as quickly or if its application is not as reliable, it will be harmed in several ways. Users will switch to competitors whose services receive better treatment. According to research compiled by StrangeLoop Networks, “three out of five [users] say that poor performance will make them less likely to return” and two of five said “they'd likely visit a competitor's site next.”²⁴ Beyond moving to competitors, users will simply spend less money on e-commerce sites or view fewer pages on sites that garner advertising revenue through the number of page-views. For example, in 2007, for every 100ms increase in load time, Amazon's sales decreased one percent;²⁵ AOL found that users whose sites load faster

²³ Julian Hatter, “President warns ‘fast lanes’ on Web could hurt ‘the next Google’”, The Hill, Aug. 5, 2014. Available at: <http://thehill.com/policy/technology/214421-obama-warns-fast-lanes-could-hurt-the-next-google>.

²⁴ Jolie O'Dell, “Why Websites Are Slow and Why Speed Really Matters,” Mashable, April 5, 2011, available at: <http://mashable.com/2011/04/05/site-speed/>.

²⁵ Ryan Kelly, “How Webpage Load Time is Related to Visitor Loss,” Pear Analytics, Aug. 7, 2009, available at: <https://www.pearanalytics.com/blog/2009/how-webpage-load-time-related-to-visitor-loss/>.

view up to 50 percent more pages than visitors whose pages load slowly.²⁶ If discrimination on networks leads to users choosing competitors and using the service less, startups that would otherwise succeed will be more likely to fail.

In both cases, investors would quickly understand these increased risks and the need for larger minimum investments necessary for startups to overcome these risks and succeed. Some investors who would otherwise invest in a startup would therefore not invest, either because of the increase uncertainty or the inability or unwillingness to invest the larger minimum necessary. As a result, fewer startups would be funded. Entrepreneurs would understand this environment going in, be less willing to take on the tremendous personal risk of starting a company, and there would even be fewer startups to fund.

Fees, both for access and preferences, impose a slightly different, but still significant, problem for startups. Without fees, the cost of innovation is low. Today it is inexpensive to start a technology company, and entrepreneurs generally do not need to raise an initial investment in the early stages of their venture. The costs are low: laptops, desks, cloud storage, and transit, all of which are competitively priced. Access fees will likely be priced far above cost because ISPs have terminating monopolies over users, as the FCC observed in 2010. Because an ISP might have monopolies over millions of particular users, the startup simply cannot reach those users without going through that ISP. The startups would have to pay these fees. ISPs can already keep these fees high and raise them every year, unlike transit costs and cloud storage, which decrease exponentially because competition drives the prices down to cost. Moreover,

²⁶ Jolie O'Dell, "Why Websites Are Slow and Why Speed Really Matters," Mashable, April 5, 2011, available at: <http://mashable.com/2011/04/05/site-speed/>.

because these fees are unconstrained by competition (or the price of transit²⁷), startups would not pay for preferences unless necessary to compete; however, if well-resourced competitors receive preferences, then startups would be forced also to pay for them. In fact, the lack of these increased prices has been one of the driving forces behind our booming startup economy.

Because startups will be paying access fees, some unfunded early startups may not be able to afford those fees (particularly if the product would be data-intensive) and will not start the company. Others will start the company but will need to raise money earlier and need to raise more of it. That makes fundraising harder in three ways: the entrepreneur will have done less to test the market in ways that lower investors' risk, the entrepreneur would need to raise a larger round of initial financing (therefore drawing from a smaller number of larger investors or requiring the accumulation of more small investors), and the entrepreneur could only offer investors a smaller potential reward. The Commission has recognized this problem before:

Fees for access or prioritization to end users could reduce the potential profit that an edge provider would expect to earn from developing new offerings, and thereby reduce edge providers' incentives to invest and innovate. In the rapidly innovating edge sector, moreover, many new entrants are new or small "garage entrepreneurs," not large and established firms. These emerging providers are particularly sensitive to barriers to innovation and entry, and may have difficulty obtaining financing if their

²⁷ This is because transit connections are congested, as detailed by Level 3. Comments of Level 3, Docket No. 14-28, March 21, 2014. Available at: <http://apps.fcc.gov/ecfs/document/view?id=7521094640>.

*offerings are subject to being blocked or disadvantaged by one or more of the major broadband providers.*²⁸

In these ways, blocking, discrimination, and access fees would impose new burdens that would harm startups. They do not expect the existing, large competitors to receive better network access from telecommunications carriers based on payment, connections, or mere preference. They needn't hire lawyers or sales teams upfront to negotiate deals with telecommunications carriers to ensure "distribution" for their products or services. They needn't be Apple or Netflix in order to negotiate reliable service. They have not historically paid termination fees directly to carriers with termination access monopolies, which would essentially allow them to charge prices far above marginal cost. To our understanding, they rarely (and only recently) have paid these termination fees, not even indirectly, as the largest transit providers such as Cogent refuse to pay them.

Though the FCC could potentially prevent many of the most egregious ISP gatekeeper abuses through strong net neutrality rules, the harm to startup competition posed by the Comcast/TWC merger cannot be entirely remedied through prophylactic rules.²⁹ Comcast/TWC are both large, vertically integrated companies with tremendous incentives to use their terminating access monopoly power to favor their own affiliated enterprises. Allowing one vertically integrated company to control access to a majority

²⁸ Preserving the Open Internet, GN Docket No. 09-191, Broadband Industry Practices, WC Docket No. 07-52, Report and Order, FCC 10-201 (Dec. 23 2010) at 16, available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-10-201A1.pdf.

²⁹ Comcast's claim that any net neutrality related concerns are obviated by virtue of its "legally-binding commitment to an open Internet" is hollow, considering its "commitment" expires in 2018 and doesn't include any specific obligation to refrain from entering into paid prioritization arrangements. See, Comcast opposition to petition to deny and comments Sept. 23, 2014 Docket No. 14-57 at p. 36; see also <http://www.justice.gov/atr/cases/f274700/274713.pdf>

of U.S. high-speed broadband subscribers poses competitive harms that transcend regulatory measures.

c. Allowing Comcast and Time Warner to Merge Will Diminish Incentives to Create Faster, Better Networks

While it is true that Comcast and Time Warner Cable do not currently compete in any geographic markets, the lack of current competition between the applicants does not mean that the merger will have no impact on competition in the broadband market or other ancillary markets like the technology sector. In its Opposition, Comcast absurdly claims that allowing the two largest broadband providers in the country to combine will somehow increase broadband competition.³⁰ According to Comcast, the merger will promote competition and faster speeds because, historically “[t]he broadband industry has grown through competitors leapfrogging each other and inciting competitive responses.”³¹ Though Comcast is correct that competition “incit[es] competitive responses” that promote the deployment of better broadband services, it seems to ignore the fact that the merger will not involve any “competitors leapfrogging each other,” but rather the wholesale elimination of its biggest competitor.

If Comcast believes so strongly in this competitive leapfrogging, it should actually compete with Time Warner. Just because the companies have to date refrained from competing in any market, it does not mean that combining will promote competition. Each company could compete in the other’s geographic markets to build next generation fiber networks, but simply chooses not to do so. If Comcast wishes to acquire customers in Time Warner’s market, it should compete for them, not simply

³⁰ Opposition to Petitions to Deny and Response to Comments of Comcast and Time Warner Cable, Docket No. 14-57 (Sept. 23, 2014) at p. 36. (hereafter “Comcast Reply”).

³¹ *Id.* at 45.

purchase them. Rather than allowing Comcast and Time Warner to grow through acquisition, the FCC should require them to grow through competition. If Comcast and Time Warner are not obligated to compete and can instead buy ever more dominant market positions, they will have no incentive to invest in new, faster, more expansive networks. This disincentive will put U.S. technology companies—startups in particular—at a disadvantage to companies in countries with more competitive broadband networks. As Chairman Wheeler has said, “where greater competition can exist, [the FCC] will encourage it.”³² The FCC should abide by this pledge and block the proposed merger.

i. Only Through Meaningful Competition Will U.S. Broadband Speeds Improve

Simple economic logic shows that the merger will do nothing to improve broadband speeds. Because Comcast/TWC is the only provider of high-speed broadband in so many markets, they have no reason to improve speeds. If current customers are dissatisfied with Comcast/TWC service, they cannot simply choose a better, faster provider, as no such providers exist.

The best facilitator of improved broadband performance is competition, not combination. As we saw when Google deployed fiber optic service to Kansas City, multiple high-speed broadband providers can both function in a given geographic area. And, as Google’s fiber deployment in Kansas City showed, having multiple competitive high-speed providers in a given area is the best way to insure greater speeds and better service. In 2013, after Google Fiber launched in Kansas City, Time Warner—the only

³² Tom Wheeler, Remarks, FCC, The Facts and Future of Broadband Competition (Sept. 4, 2014), available at: http://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db0904/DOC-329161A1.pdf at p. 5.

high-speed provider in Kansas City—began offering 100 Mbps service, twice the speed it offered anywhere else.³³ This has in turn been in a boon to the Kansas City startup community, drawing high-profile investors to the area and creating whole communities of high-growth startup companies.³⁴ Of course, cable companies *can* offer better speeds, but simply choose not to because they do not face adequate competition. There is no reason to believe that, with their biggest potential rival nullified, Comcast will suddenly start offering faster speeds.

ii. Diminishing Incentives to Create Faster Networks Harms Startup Activity and Halts the Virtuous Cycle

Diminishing investment incentives for Comcast to expand its networks and increase speeds implicates harms that extend far beyond the immediate consumer impact of slower speeds. Businesses depend on fast speeds to provide quality services and maintain parity with international competitors with access to better networks. In the FCC’s traditional formulation of the “virtuous cycle of innovation,” “new uses of the network—including new content, applications, services, and devices—lead to increased end-user demand for broadband, which drives network improvements, which in turn lead to further innovative network uses.”³⁵ But, the virtuous cycle works in a different direction as well, as Chairman Wheeler noted: “the better the available broadband

³³ Todd Spangler, “TWC Kicks Up Broadband Download Speeds,” Multichannel News, Dec. 20, 2012. Available at: <http://www.multichannel.com/news/cable-operators/twc-kicks-broadband-download-speeds/326108>.

³⁴ “Entrepreneurial Expert Brad Feld Buys House in Kansas City Startup Village, Launches Competition to Live in it,” March 13, 2013. Available at: <http://www.kauffman.org/newsroom/2013/03/entrepreneurial-expert-brad-feld-buys-house-in-kansas-city-startup-village-launches-competition-to-live-in-it>.

³⁵ See, *generally*, Open Internet NPRM, available at: <http://www.fcc.gov/document/protecting-and-promoting-open-internet-nprm>.

performance, the more that edge providers will take advantage of that performance with new applications, which in turn will drive more investment to meet that demand for next-generation broadband.”³⁶ That is, greater available speeds encourage innovators to take advantage of those speeds to create technologies that couldn’t otherwise exist. It is this aspect of the virtuous cycle that the proposed merger puts most at risk. The U.S. is already lagging well behind international peers in Internet speeds, and it is clear that speeds are a necessary prerequisite to competitive startup activity. We have seen this lesson in practice domestically, as cities investing in gigabit networks (such as Chattanooga, TN³⁷ and Danville, VA³⁸) have drawn significant new startup activity relative to peer cities. The diminished competition that will result from a Comcast/Time Warner merger threatens the continued viability of the U.S. startup sector, and the harm this will cause to consumers and the economy is reason alone to reject the proposed merger.

V. Conclusion

The proposed merger presents a potentially existential threat to the continued viability of the nation’s vibrant startup economy. Allowing Comcast and Time Warner to merge will give a single ISP overwhelming terminating monopoly access power over more than half of the nation’s high-speed broadband users and diminish what few

³⁶ Tom Wheeler, Remarks, FCC, The Facts and Future of Broadband Competition (Sept. 4, 2014), http://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db0904/DOC-329161A1.pdf at p. 3

³⁷ Dominic Rushe, Chattanooga’s Gig: how one city’s super-fast internet is driving a tech boom, The Guardian, Aug. 30, 2014. Available at: <http://www.theguardian.com/world/2014/aug/30/chattanooga-gig-high-speed-internet-tech-boom>.

³⁸ Andrew Michael Cohill, Ph.D, “Danville Transforms Its Economy With Fiber,” Broadband Communities. Available at: <http://www.bbpmag.com/MuniPortal/EditorsChoice/1111editorschoice.php>.

competitive dynamics exist in the U.S. broadband market. For these reasons and the other reasons outlined in this submission, the merger should be denied.

Respectfully submitted,

/s/

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