



# Testing the GigaCity

*Getting Fast in KC*

Story by **NANCY SCOLA**  
Illustration by **GREG PIZZOLI**

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**Located in a low-slung office complex on the Missouri side of Stateline Road but just a short hop to Kansas, Google's Fiber Space is what an Ikea showroom might look like if happened to be hooked up to some of the fastest Internet in the United States.**

Visitors to one mock-living room display can experience what it's like to play the *LEGO Harry Potter* video game streamed to a giant monitor over ultra-high-speed broadband. In a second faux room with a second giant monitor hooked to the Internet by a gigabit connection, high-def sports coverage loops.

Fiber is robust, lacking the bandwidth limitations of copper, the traditional material of choice for the Internet's final miles. How robust? A Google Fiber staffer named Tom shows me how he can download a handful of YouTube videos of gymkhana, or Japanese stunt car driving, while simultaneously strolling through Times Square via Google Maps' Street View, while also, thanks to the Google Art Project, zooming brushstroke-close into "Starry Night" as it hangs in the Museum of Modern Art. Tom's remote is a Google Nexus tablet, navigable by touch and empowered with Google search capabilities. Everywhere is a rainbow bunny, the spirited logo of the Mountain View company's latest endeavor.

"Broadband in America is not all it needs to be," is how the [National Broadband Plan](#), a report issued by the federal government in spring 2010, put the state of high-speed Internet in the United States. Less diplomatically, broadband in the U.S. is often slow, quite expensive and, where it exists at all, generally limited to just a small handful of providers.

Here in Kansas City, Google is in the early stages of an experiment. The stated goal: To learn what there is to know about making high-speed broadband faster, cheaper and ubiquitous. Called [Google Fiber](#), it's the most ambitious fiber-to-the-home project in the country. Here in the geographic middle of America, at least this moment in time, these paired cities will have the fastest, broadest broadband network in the U.S.

For Kansas City, the dream is of a gigabit of connectivity in every pot, enough to bring into being remote medical screenings, digital coursework from anywhere in the world, fire departments equipped with 3-D building plans and immersive video gaming — enough to transform two mid-sized heartland cities into a 21st-century hub of the digital-age economy, a hotbed of innovation and growth. Google's experiment has given the city new friends; in recent months, local officials have chatted with officials from other gigabit cities like Amsterdam, Barcelona, Moscow, Singapore and Toronto. After Google chose to try Fiber in Kansas City, a new billboard rose,

declaring: “Kansas City, you are now faster than New York City.” (Meanwhile, last month New York **launched a competition** for businesses in the five boroughs to apply for free fiber connections.)

“The way we take advantage of this,” says Mike Burke, co-chair of the **Mayors’ Bistate Innovation Team**, “is to not just be Google’s beta tester. It’s to be the beta tester of everyone who’s got an app or a device” that can harness the power of a gig.

Getting to that point has been slow going. Nearly three years after Google challenged cities to host its first attempt at becoming a fiber-optic network provider, Kansas City continues to grapple with how exactly to move from being someone else’s laboratory for innovation to doing the innovating itself. Activists are still struggling to figure out how to build a fiber network that benefits all communities and doesn’t simply widen the digital divide. And Google is wrestling with the challenges of applying its big ideas to a real-life city.

“I started out thinking that either these guys are the smartest guys in the world and they know what they’re doing,” says Burke, “or that they’re the smartest guys in the world and they’re making it up as they go along.”

Burke says he now thinks it’s the latter. But while Google is betting its experiment will lead to new ideas for technological innovation and infrastructure, there are other lessons useful to people, like Burke, working in the civic sphere to keep communities connected in the digital age. There is little doubt that the 21st-century city is a connected one. With the Google Fiber experiment, the tech giant and the people of Kansas City are forging a path to get there.

## 39.050134, -94.606693, KANSAS CITY

In February 2010, Google **issued a challenge** for cities to compete to be the site of its first attempt to connect homes via fiber. In a country of 380 million people, the company’s scope was constrained. It was meant to be a small test: More than 50,000 people, but fewer than half a million. But, said the company, “we hope to learn lessons from this experiment that will help improve Internet access everywhere.”

It was a tempting offer. More than 1,100 cities applied. Some, like Topeka, Kan., tried a bit of Google whimsy; the city renamed itself “Google, Kansas.” Google returned the favor as part of its annual April Fools’ Day prank, rebranding itself “Topeka.” Kansas City, locals say, took a more workmanlike approach, attempting to sell the company solely on the region’s merits.

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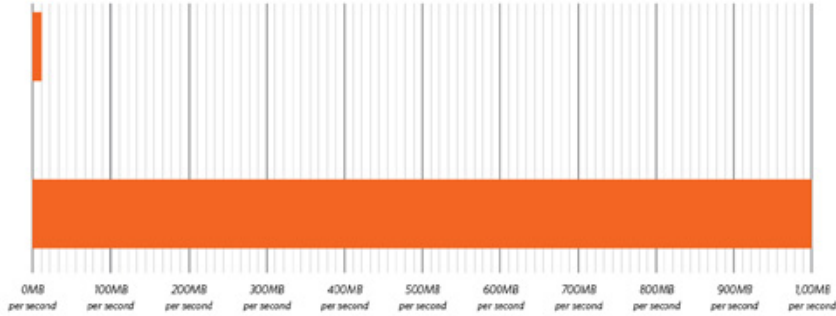
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# Upping the Ante

Google says its Fiber network will connect at a speed of 1,000 MB per second - 100 times faster than today's average Internet. Kansas City hopes that the speedy network will attract entrepreneurs drawn by the prospect of being on the Internet's leading edge.

AVERAGE INTERNET SPEED  
**10MB per second**

GOOGLE FIBER SPEED  
**1,000MB per second**



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In March 2010, after rounds of site visits, data crunching and closed-door discussions, Google named Kansas City, Kan. (KCK, population 146,000) its winner. Shortly after, it added Kansas City, Mo. (KCMO, 463,000) to the project.

As Google tells it, the story of how Fiber ended up in Kansas City actually started in Washington, a thousand miles straight east. The inspiration for the fiber project, says the company, was the work poured into the drafting of that National Broadband Plan, ordered by President Obama as a way of connecting every American as part of the 2009 Recovery Act, in conjunction with appropriations of many millions of dollars for broadband rollout. The Federal Communications Commission finally released that holistic look at the state of broadband in the United States in March 2010. The company saw it as a challenge to “take up the mantle and see what can happen,” says Jenna Wandres, a Google Fiber spokesperson.

(As it happens, Blair Levin, the FCC appointee who led the writing of the National Broadband Plan, later went on to launch **Gig U.**, the effort by more than three dozen U.S. research universities focused on bringing gigabit networks to their campuses and their often-urban surrounding neighborhoods. Levin's inspiration? That there were more than 1,100 cities and towns that *weren't* Kansas City — municipalities that were intrigued enough by the gigabit to apply, often aggressively, for the Google Fiber project, but that didn't get picked.)

After naming its victors, Google more or less went dark, inspiring some skepticism. Unburdened by details, the cities started thinking through possibilities. KCK Mayor Joe Reardon and KCMO Mayor Sly James tasked the Bistate Innovation Team of local leaders to work up “playbook” of ideas for making the most of the gig’s newfound gig. “In one sense, we were lucky that Google was so tight-lipped,” says Burke, a local attorney and one-time mayoral candidate. “Instead of focusing on what Google was going to do, we were focusing on what Kansas City needs to do to be the digital crossroads of America. What can we do to take advantage of this limited window of time where we have the fastest download speeds in America?”

The tech giant’s gift to the city, says Burke, began to pay off before “hooking up a single computer.” The mere promise of a Google-delivered gigabit lit a fire under the local tech community, and inspired residents to think with unbounded creativity about the potential of abundant broadband to transform daily life. Burke, for one, has a particular interest in education. What about having one Chinese teacher conducting a class that can be beamed to every school that wants it? Streaming in the best substitutes on any topic? Even flip-flopping the school day, with lectures at night, leaving time for hands-on schoolwork during the day? “We’ve had a year of conversations,” says Burke, “that I think every city in the country should have in some way, shape or form.”

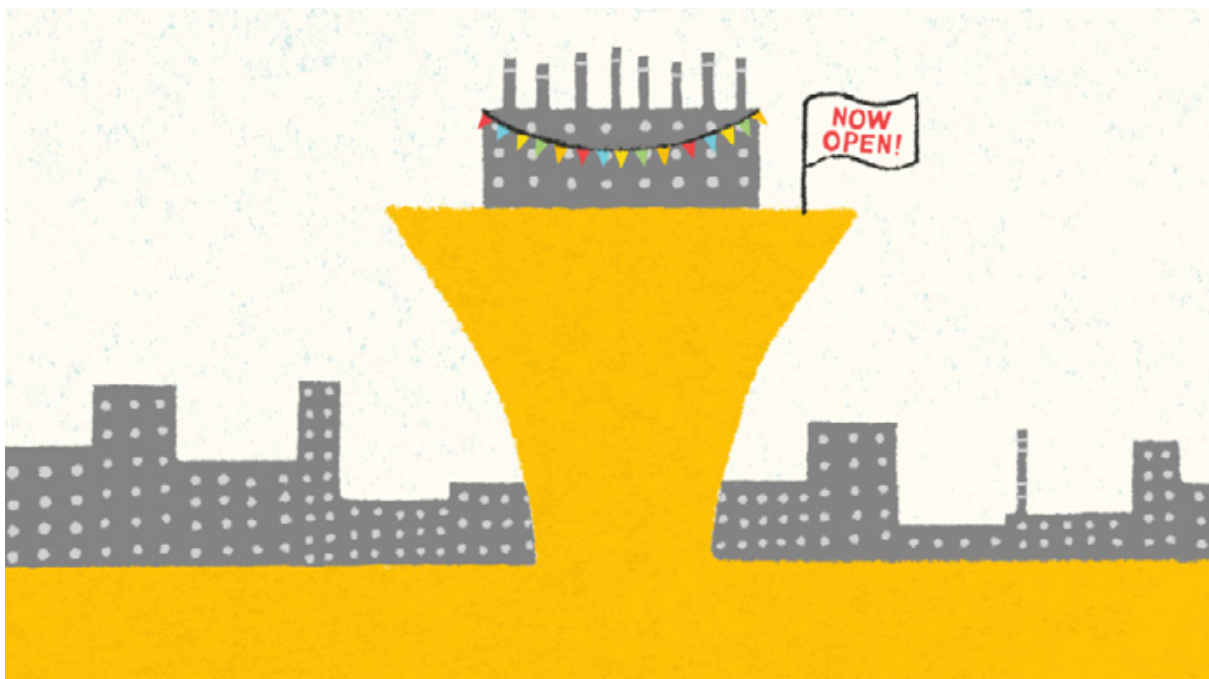
The takeaway from that year of discussion? That becoming a gigabit city wasn’t just about fiber, or the challenges of running cabling from citywide broadband backbones to doorsteps. It was about reimagining what it means to be a city of nearly limitless broadband. The Innovation Team’s [final 37-page playbook](#) concluded that, “a successful Internet economy is 90 percent sociology and 10 percent technology.”

## WIRED FOR CHANGE

The first wrinkle in the gigabit city concept became evident soon after Google got started in Kansas City: The company would not simply blanket the town with fiber free for the taking. Kansas Citians would pay for their hook-up. What’s more, only those residents of neighborhoods chosen to participate in the program from the onset would have the option of signing up. The second wrinkle involved how that choice would be made. “Usually, when a provider comes into a community,” says Google Fiber’s Wandres, “they decide where to build and when to build. With Google Fiber, we’re letting Kansas City decide.”

The Google model for letting Kansas City decide was built upon a concept called “fiberhoods,” or 202 Google-identified geographic units spread across KCK and





KCMO. Households interested in eventually signing up for Google service would pay a \$10 commitment fee, and if a fiberhood triggered a certain quota of pre-registrations — 5, 10 or 25 percent, based on geography and population — it would “turn green” and thus be eligible, eventually, for fiber connections. Fiberhoods had six weeks to decide whether or not they were on board, imbuing the rally period with a distinct sense of urgency.

By then, the details on what Kansas Citians were pre-registering for had emerged. For \$70, they would get one gigabit of broadband, both upload and download — an almost comically large amount of bandwidth for the price. For \$120, customers would get cable service, too, plus a two-terabyte storage box, a Nexus tablet-remote and other goodies. There would also be a “Free Internet” option. For a \$300 fee (or \$25 a month spread out over a year), customers would get a guaranteed seven years’ worth of broadband service at speeds comparable to what much of America relies upon right now. That last tier is, according to Google, no moneymaker. “That’s literally what it costs us to drop fiber to your home,” says Wandres. But it preserves the possibility of flipping the switch to a gigabit plan at any time.

As things turned out, rallying fiberhoods to go green came very much to resemble a citywide political campaign. Canvassers, many hired via Craigslist, rotated between staffing the Fiber Space and hunting for pre-registrations outside schools, libraries and stores. A week before the registration was set to close, Wandres put the number

of paid canvassers — generally young, eager and slightly messianic, all dressed in blue and white Google baseball shirts — at about 60. It wasn't a massive number, but they were creative. A few took turns driving around an ice cream truck and passing out ice cream sandwiches from nearby Shatto Milk Company. Others got the word out via yard signs: "Let's bring Google Fiber to our area" or "*Traigamos Google Fiber a nuestro vecindario.*"

And like a well-run campaign, volunteers, too, took ownership of the mission. In a snappy, Google-produced pep-rally video, Kansas Citians one after another talked about what was driving their interest. "Let's do this for... *Everyone who calls Kansas City home. The Tigerbytes Robotics Team. The Plaza Library. The doctors at KU medical. Wyandotte High School. The Chiefs. The west side. Strawberry Hill. To bring life to the city. Barbecue. Our public servants.*" The ad wrapped with a bit of reciprocal mayoral boosterism. "Let's do this for Kansas City, Missouri," encouraged KCK's Reardon. "Let's do this for Kansas City, Kansas," echoed KCMO's James.

Importantly, the fiberhood model also provided for more than 400 government buildings, including schools, libraries, police stations and fire houses, that, in 'green' zones, Google would connect to Fiber under the agreements it had hammered out with the cities. Those structures proved to be brick-and-mortar points around which the cities could, and did, rally. "One thing I'll say," Burke says, "is that it was absolutely genius marketing because they have the communities doing much of the their advertising."

But the fiberhood rally concept wasn't without its hiccoughs and critics. For one thing, simple logistics proved complicated. To pre-register to get online, you needed to be online. Also, you had to have both a credit card and Google Wallet account. More fundamental is the critique that by forcing neighborhoods to self-select, Google avoided the charge that it was redlining at the same time it was pledging to help heal the digital divide. There were hurt feelings. "They rolled out the contest part of this to paper over" the fact that some people might not be able to afford Fiber, says Crosby Kemper III, director of the Kansas City Public Library, "and I do think that's a little disingenuous."

Aaron Deacon, president of Kansas City's [Social Media Club](#), concedes that Google didn't do much early on to spread information about the Fiber launch or make signing up particularly accessible. Working with local organizers, Deacon and the club devised a scheme for pre-qualifying fiberhoods. Using a Kansas City-grown crowd-funding platform called [Neighbor.ly](#), Deacon and allies raised more than \$11,000 from both inside Kansas City and outside town. In a campaign called "[Paint the Town Green](#),"



the money was loaded onto prepaid debit cards that were passed out to community groups. But as for what it might look like doing Google's marketing for them, Deacon argues that the city is being gifted a fiber network, thus it's reasonable to ask citizens to give something, too. "Is it a little weird? Sure," he says. "But the fact is that there's an opportunity to develop something here that doesn't exist anyplace else." It's not particularly good for anyone in Kansas City, he argues, if Google Fiber fails.

As Google sees it, its unconventional fiber deployment model is a big part of making the numbers work. "Build-by-demand is more efficient," says Wandres, comparing it to the approach of simply dropping cable in areas selected based on internal research and metrics. "That helps keep our costs down, and we're able to offer a gig at what many people consider affordable."

As the rally period went on, it became clear that Google and its allies were really engaged in pitching Kansas Citians on two things at once.

The first was targeted at convincing folks who already had good ol' broadband to switch to Google Fiber's gigabit. You might not know it yet, went the appeal, but the Internet's even *better* when it's much, much, much more robust.

That's undoubtedly true in some ways. But there's a hard truth running through Kansas City's Google Fiber project. You can see it in the fact that the video game being streamed to a giant Fiber Space monitor is pretty severely pixilated. Or in the fact that a nutritionist on the telepresence display stutters before she begins handing out health advice. On another billboard in town, Google might sassily brag that, "Buffering is so broadband ago," but Kansas City is no island. It depends on the rest of the Internet's hardware, software and pipes, and the rest of the Internet isn't yet gigabit-ready.

It's the Catch-22 of the gig life: Truly making the most of an über-robust Internet connection requires very demanding technologies, but you need an über-robust Internet connection to inspire and support the creation of such very demanding technologies. (Worth noting: Google is only offering residential service at the start.) It's what gets some observers to dismiss Google's notion of the gig-equipped home as something of a gimmick. More generously, it's a request to their users to make a bet on the future.

Technology has always worked this way, of course. There's only so far we can stretch our imaginations. A 1916 booklet from the Milwaukee Electric Railway and Light Co. called *The Electrical House That Jack Built*, for example, could only think to celebrate the exquisiteness of the toast produced by that breakthrough innovation, the electric toaster: "No flame its dainty crispness burns." Today, we can imagine, maybe, a toaster that's part of a kitchen located in a house that can be in its entirety controlled remotely

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*“I started out thinking that either these guys are the smartest guys in the world and they know what they’re doing, or that they’re the smartest guys in the world and they’re making it up as they go along.”*  
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via a mobile phone app. But we likely lack the true capacity to imagine a tremendous amount of what a gig will make possible.

Then there was the second pitch, made to those the Kansas Citians not connected to broadband at all: It’s the 21st century, and you need to get online.

## GIGADIVIDE

It’s a little under a week before the rally period wraps, and the large digital map on the wall at Google’s Fiber Space tells the story of a city that, like so many others around the country, struggles with a digital divide that

falls cleanly along racial and economic lines. Troost Avenue has long been a de facto split between Kansas City’s white and black neighborhoods. On Google’s map, Troost is a sharp divide between those neighborhoods to its west that have opted in for fiber, or “gone green.” Poorer, predominantly African-American neighborhoods to the east remained yellow.

The concern is that, by providing Internet that’s 100 times the speed of today’s widely available broadband, Google might make it even more disadvantageous to be on the unconnected side of the digital divide. KCK, for example, has since 2007 equipped high-schools students with laptops. Will students able to do homework with the benefit of a gig have an even more tremendous edge over those who lack a home connection? Add to that the worry that in a rush to embrace this shiny new thing, the city might take its eye off the more tangible and immediate needs of its challenged areas: Jobs, community services, traditional infrastructure. “We don’t want the digital divide to get 100 times wider,” says Michael Liimatta of the community group **Connecting for Good**. “As idealistic as Google Fiber is, we’re running up against the same race, class, and economic issues.”

A study conducted by Google on behalf of Kansas City during its quiet period found that 22 percent of locals who weren’t using the Internet had no interest in getting online, which is nine points lower in than the national average but still considerable. The digital

divide is a complicated thing, but fiber boosters dispute the notion that cost here is an insurmountable barrier. Mike Taylor, a spokesperson for the unified government of Wyandotte County and Kansas City, Kan., compares the \$300 Fiber installation fee to the \$315 price tag on a pair of the new Nike LeBron James sneakers. “So is Internet for six years for \$300 not a deal?” he asks.

“The digital divide,” Liimatta says, “is bigger than just, ‘I can’t get connected.’ It’s also, ‘I don’t see why I should.’”

But there are, as Liimatta points out, critical nuances. Apartment renters, for example, must reply upon landlords choosing to pay the \$300 connection fee for each of their units. For a 250-unit building, then, the tab would be \$75,000 — not an insignificant outlay. When Liimatta’s group, in a bid to lower costs, put together a plan to connect units in one complex via a wireless repeater, Google objected on the grounds that the shared hookup would constitute an unacceptable reselling of their product.

To Kemper, the library chief, all this is reminiscent of how Google breezed by the complaints of publishers and authors when it began putting published digitized texts online through its Google Books project. Google Fiber, stresses Kemper, is good for Kansas City, and ultimately could be very good for the world. “But there are a whole lot of people [at Google] who, because their motivations are good,” says Kemper, “think what they’re doing is good, but they don’t quite get that there are complications and consequences.”

In all this, Google has had to wrestle with some expectations that other companies are unlikely to confront. Google never pretended this was the case, but there’s a sense in the air, for one thing, that somehow Google Fiber was meant to be free, a sort of companion to the free WiFi coverage that Google gifts to its hometown of Mountain View, Calif. “When they put this out as a program,” says Kemper, “they said, ‘We’ll connect you.’ People didn’t pay attention to the fine print.” Compared to free, \$25 a month can seem like a lot.

Google admits that there have been lessons learned, approaches tweaked. Early on, for example, it structured marketing around use classes: Power users. Gamers. The medical teams at the University of Kansas. But, says Wandres, as it saw the Troost divide emerge, it refocused on selling targeted neighborhoods on fiber’s appeal. A mini-debacle where people living in apartments sometimes found it impossible to pre-register due to a glitch in the system’s backend resulted in what the company called a long and painful correction process. Quotas for some neighborhoods were readjusted, says Wandres, to account for less-than-accurate initial read of housing

stock, including missed vacancies. To borrow a term from the tech world, Google was indeed iterating as it went along.

And it appears to have paid off. About a week out from the pre-registration deadline, some 120 fiberhoods of 202 had been turned green. But thanks to the efforts of Deacon and many others, when pre-registration closed a healthy 180, or nearly 90 percent, of fiberhoods had gotten on board. Google pronounces itself thrilled with that result. It means that a vast swath of Kansas City's urban core will soon be able to tap into a faster Internet than that of nearly anywhere else in the United States.

## WHERE GOOGLE MEETS GOVERNMENT

Boyish and buzz-cut, Ajit Pai is both a Bush-appointed commissioner on the Federal Communications Commission and a son of Parsons, Kan. He's come to visit the Fiber Space, as well as the telemedicine program at the University of Kansas Medical Center. At the hospital, a local school nurse displayed on an overhead monitor shows what the inside of her ear looks like when examined with a networked otoscope connected to standard broadband. It's a little fuzzy. To simulate the high-def version a gigabit would make possible, a KU doctor standing in the room with us displays a much clearer version of his own ear.

And after a few hours examining Google Fiber, Pai, a vocal advocate for deregulation in the telecom space, issues out a statement praising Kansas City's willingness to create streamlined, broadband-friendly "rights-of-way" policies for laying cables through public lands. Others could learn a thing or two from KC, says Pai. "We need to eliminate regulatory barriers to innovation and investment at *all* levels of government." Pai's statement speaks to a major debate in the broadband world: Is government standing in the way of broadband? Should it get out of the way completely? Should it seize the mantle itself in the form of municipal networks?

But the facts on the ground in Kansas City suggest that what Mayor Reardon touts in his official biography as this "partnership and new adventure" with Google is something far more complex than the broadband debate generally allows for.

To the players, Google Fiber looks like a win-win, all around. Google has praised Kansas City's willingness to use its resources to bring fiber to the city, such as lowering some of its infrastructure access fees and streamlining its permit approval process. (By contrast, Google has said that the "regulatory complexity" of California makes Fiber-type projects there extremely difficult.)

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# Gigalopolis

Google's experiment has catapulted Kansas City into a small class of GigaCities that boast the fastest Internet in the world. New York City recently launched an initiative aimed at bringing the city up to speed, so the Big Apple too could join the club.



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Google is getting additional help on the city side. For example, in KCK, Google's agreement provides for an executive sponsor "at the most senior level of the City" and an in-city team dedicated to the project that is able to provide "on-the-spot exception management" when permits and the like might slow down progress. And Google won the right to connect, for free, to the electrical portion of utility poles, the same as a public agency would; it chose instead to connect to the utility portion used by its competitors, but even the \$10 connection fee is just a little more than half the reported rate being paid by existing broadband providers.

Not surprisingly, KCK and KCMO's willingness has led to charges that Google is, perhaps unfairly, getting too many concessions.

"We're not afraid of competition," says Justin Venech, spokesperson for Time Warner Cable. "We're willing and happy to compete with anyone at any time, and that includes Kansas City. We want to make sure that we're competing on a level playing field."

It's a critique that the cities have clearly heard before. "The thing we have to make sure about," says Taylor, "is that we're not creating an unfair playing field for Time Warner and AT&T, especially when you see two mayors coming out and being advocates for Google."

Indeed, incumbent providers are said to have requested so-called “parity agreements,” or terms comparable to those of Google’s agreements. KCK officials say those negotiations are going well — adding that the fact that Google got a friendly package to innovate and build infrastructure *and* that its competitors are now seeking the same are all positive developments.

From the municipal standpoint, Google got special consideration because the Google Fiber project is, simply, unique. Google has offered the cities something no broadband provider thought to offer the cities before.

Bringing Google Fiber to Kansas City isn’t the least bit about Google Inc., explains KCK public affairs officer Edwin Birch. It’s about a chance to improve the area’s quality of life through innovation. “Google came to us,” he says. “They selected us. We see it as a once-in-a-lifetime opportunity to connect our community.”

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*“Instead of focusing on what Google was going to do, we were focusing on what Kansas City needs to do to be the digital crossroads of America. What can we do to take advantage of this limited window of time where we have the fastest download speeds in America?”*

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Other cities aren’t necessarily waiting for that once-in-a-lifetime opportunity to come to them. Chattanooga, Tenn., for instance, offers its residents a gig to the home via **EPB**, its community-owned electric company. Launched three years ago, the original purpose of the network was to connect the city’s electric utility. (Relatedly, Google Fiber raises smart grid possibilities with KCK’s Board of Public Utilities and KCMO’s private Kansas City Power & Light.) But the utility now sells gigabit hook-ups for a whopping \$299 a month, more for business customers.

Meanwhile, in Cleveland, neighborhood leaders are working with Case Western University to develop a gigabit network called **Case Connection Zone**. In the Louisiana city of Lafayette, an effort called **FiberCorps** aims to explore the economic possibilities of fiber-optic connections. As with Chattanooga, the Cleveland and Lafayette projects are part of a drive called **US Ignite** that grew out of the White House’s Office of Science and Technology Policy.



It's a nearly unavoidable reality: The story of the gigabit city might be a new one in both Kansas City and the United States, but it's one woven through and through with public and private interests working in parallel and in conjunction.

Back in Chattanooga, the city is aggressively trying to tap the potential of its asset. A summer project called Gig Tank just "brought some wickedly smart kids to town to play on it," says Ken Hays, who works on the community side of what they call Chattanooga Gig. "Right now, it's just folks dabbling and playing, but what we're trying to do is stir up people to explore their horizons."

Ultimately, Hays says, the real meaningful uses of the gig will be in massive data and research applications. But those, well, are something less than exciting. So Chattanooga is trying to capture imaginations through entertainment, too. A recent concert in Coolidge Park featured alt-country singer Chuck Mead playing alongside music legend T. Boone Burnett. Only Burnett was in Los Angeles, some 2,100 miles away. They called it the Gig City Roots Concert.

"We're fired up about Kansas City ultimately getting deployed," says Hays. Why? Network effects. It's no use being the only person on the Internet. Interest in and utilization of Chattanooga's gig needs to reach a tipping point, and "that only happens if more cities have it."

Of course, though, Google Fiber gets much, if not all, of the attention. Part of it is, no doubt, Google branding and bravado, but there is also its willingness to promise a gigabit to the masses and peg it to a price point that many can afford. "Google has upped the ante," says David St. John of the Virginia-based [Fiber-to-the-Home Council](#). "They said, 'Don't tell us it's not possible, because we'll do it.'"

Over in the Fiber Space, FCC Commissioner Pai is wrapping up his visit. While giving each display a whirl, he expresses appreciation but maintains a bureaucratic coolness. That is, until, the last station: The giant TV operating at Fiber speed. Most of the rest of the group has already moved onto the café. Pai, standing, asks a young Google Fiber staffer, if he can pull up a YouTube video: "Eating a Pear with Dad." He can, in seconds. It's a two-minute clip of Pai and his infant son, taking turns nibbling on some fruit. "That's awesome," says the commissioner. Uploaded in March, the video has only a smattering of views. It doesn't much matter. It's the power of a tunnel-sized connection to all that the Internet has to offer.

## FIBER'S FUTURE

Google Fiber has always been a relatively small-scale experiment in reengineering access to broadband, and while Google hasn't hidden its interest in possibly expanding the project to other areas, "we're really focused on Kansas City," says Wandres. Already, three small neighboring communities — Westwood, Westwood Hills and Mission Woods — have, after approval by their city councils, been added to the list for future fiberhood qualifications.

The concrete next steps for Google Fiber is to see who converts from a \$10 indication of interest to a paying package and, importantly, to actually complete the build-out of the fiber connections to homes. Two neighborhoods are scheduled to come online before the end of 2012. The remainder of the construction scheduled stretches through 2013.

The Google Fiber project is no doubt ambitious, and scores of questions remain. Will the economics truly work? Will the fiber networks be a worthwhile investment for Google and for the people of Kansas City? Will Kansas City make the most of its moment as America's best-known gig city? Will there be significant innovation around the gig's potential? Is the Google Fiber model replicable and scalable in other cities?

There's little doubt, though, that the Google Fiber project will expand the universe of thinking about how the United States' cities, towns and rural areas connect to the Internet of the future. It already has. Google knows a great deal more than it did three years ago about what it means to be a gigabit spot on the map. So does Kansas City. »



## ABOUT THE AUTHOR

**Nancy Scola** is a journalist and writer whose work on the intersections of technology and politics has been published by *The American Prospect*, *Capital*, *Columbia Journalism Review*, *New York*, Reuters, Salon, *Science Progress*, Seed and other publications. She is a correspondent on technology and politics for *The Atlantic*.

She was previously the associate editor of techPresident, a widely-read daily online publication of the Personal Democracy Forum. She's talked about governing, campaigns, political organizing, technology policy, digital media and more on the BBC, CNN.com, MSNBC and WNYC's "The Brian Lehrer Show," and frequently appears on conference panels.

Nancy came to journalism from government and politics. From 2001 to 2005, she served on the Democratic staff of the Committee on Oversight and Government Reform in the United States House of Representatives, under Rep. Henry Waxman of California, handling both online communications and a technology policy portfolio. After leaving Capitol Hill, she was an aide to former Virginia Governor (now Senator) Mark Warner as he explored a possible run in the 2008 presidential election.

Nancy grew up in northern New Jersey and now lives in Brooklyn, New York. She holds a B.A. in anthropology and Africana studies from George Washington University and an M.A. in anthropology from Boston University.

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## ABOUT THE ILLUSTRATOR

**Greg Pizzoli** is an author, illustrator and screenprinter from Philadelphia. He has been recognized for his editorial and children's illustrations by Communication Arts, The Society of Children's Book Writers and Illustrators and 3x3 magazine. His first children's book will be released by Disney\*Hyperion in the summer of 2013.