

# Charlotte's Google Fiber Web

Google came, Google saw, Google is building. But why did Google choose Charlotte?

By Marianne Cotter / *Broadband Communities*

**O**n January 16, 2015, 800,000 residents of Charlotte, N.C., woke up to the news that Google Fiber had chosen Charlotte as one of its next fiber cities. Though many of these citizens might have been a bit vague as to what a gig to the home would mean, a large contingent of city officials, community partners and grassroots organizers were not. Euphoria spread quickly among those who had spent much of the last year prepping to make this moment happen.

Who can blame them? Google was about to invest millions of its own dollars in building a state-of-the-art fiber network that would reach every neighborhood in the city – without costing the city or its citizens a cent.

But how did Charlotte make the grade? Oddly enough, the city didn't even bite in 2010 when Google launched the competition that had cities vying with one another to win Google's first fiber buildout, which eventually went to Kansas City. "We knew Google was a long shot and declined to participate in the frenzy," recalls Charlotte CIO Jeff Stovall. "At the time, we were more interested in the federal BTOP [broadband stimulus] grant, which we received in September 2010, within a few months of the Google competition."

In choosing its second round of cities, Google took a more considered approach. Instead of using a competition model, it researched the potential of a group of cities and then approached the leadership to ascertain interest. "It was different the second time around," Stovall recalls. "We were apparently on their short list of cities, and they didn't tell

us why except [for] some generalities about Charlotte being fast-growing. Clearly the growth that Charlotte had gained over the last decade, plus our reputation for being business-focused as both a city government and a city, likely contributed to their initial interest in Charlotte."

Jess George, Google Charlotte's manager of community impact, puts it like this: "When Google is looking to bring fiber into a city, the questions are, 'Is it growing? Is it vibrant? Is it welcoming? Does it have a city government that is eager and helpful to work with?' And then there's the aspirational question of what will this city do with a gig that will transform not only the city itself but also the region and perhaps beyond."

She adds, "Charlotte is a major U.S. financial and business center, host to the headquarters of seven Fortune 500 companies, in which we think Google Fiber will have a powerful local impact. We knew those companies would benefit in terms of being able to attract and retain high-caliber employees who want Google Fiber in their communities."

So in February 2014, Charlotte became one of 34 cities invited to complete Google's infamous checklist – that laundry list of needs, assets, access and cooperation that allows Google to gauge how responsive each city would be to a smart company that moves fast.

## GAUGING RESPONSIVENESS

A fully committed city government went to work on the checklist under the leadership of Phil Reiger, the city's assistant transportation director, who was in the best position to manage Google's work environment. "The fiber optic cable will,



Charlotte programmers participated in a multicity GigHacks event to develop gigabit applications.

for the most part, be put in the city's right of way between the curb and the sidewalk, so for the practical matter, that's why I lead the effort," he explains.

Reiger and Stovall started by reaching out to other Google cities (in addition to Kansas City-area cities, Austin, Texas, and Provo, Utah, had become Google cities by that time). They visited some of them, including Kansas City, where Aaron Deacon of KC Digital Drive provided considerable advice and support.

"We were able to take what we learned from the other cities and put it into our plan much earlier," says Stovall. "In local government, there's always an advantage when someone else has done it first; you don't have to reinvent the wheel. We had a lot of connections with Kansas City because several of our local government officials have affiliations there through education or profession." Stovall himself had lived in the Kansas City area for seven years prior to coming to Charlotte.

One significant similarity Stovall noticed right away was that Charlotte and Kansas City, Mo., shared the same city manager form of government, as opposed to the mayoral form. The role of the city manager is similar to that of a company CEO, and the mayor's role

is more like that of the chairman of the board. "It makes some differences in the way that we execute that can be material in terms of how you build support, making sure everybody on the city council is on the same page," says Stovall. "Council members have a vote; the mayor doesn't." (A good thing, it turns out, as Charlotte Mayor Patrick Cannon resigned in March 2014 after being arrested on corruption charges, for which he was later convicted. His successor, Dan Clodfelter, was on hand for the Google announcement in January 2015.)

### WORKING AT THE SPEED OF GOOGLE

Google expects to work fast, at a speed city governments rarely achieve. Still, the city of Charlotte had a few things working in its favor, including an already streamlined permitting process, one of Google's key concerns. "We didn't have to make any changes to our permitting process to accommodate Google," says Reiger. "Charlotte is unique among cities because we have created a streamlined, citywide utility right-of-way management program. Google comes to one place to get their permits, which gives them permission from city utilities, our tree folks and our

right-of-way folks. It's a one-stop shop."

The completed checklist came to 118 pages and was delivered on deadline. The process involved a lot of back-and-forth with the Google team, during which valuable relationships were formed.

### THE GRASSROOTS COMPONENT

In February 2014, just after Google identified Charlotte as a possible fiber city, another conversation took place, this one between two local techies – Terry Cox, president of BIG Council, and Alan Fitzpatrick, COO of DC74 Data Centers. They fully comprehended the opportunity at hand. Cox immediately wrote a letter to *The Charlotte Observer* urging the city to seize the moment. Next, the two formed CharlotteHeartsGigabit.com, a resource to update the community that included a newsletter and Twitter account. Soon they became an integral part of the city's effort to snag Google Fiber. They briefed the press, spoke at conferences and attended official meetings. Cox stood on the podium with the mayor and Google reps when the announcement was made.

Finally Charlotte had its grassroots component in place.

Charlotte's tech community is focused on innovation and on the capacity for entrepreneurs to develop the next generation of gigabit apps.

Today, as the buildout proceeds, CharlotteHeartsGigabit continues to drive the conversation about what gigabit Internet will mean for Charlotte. Among other things, it emphasizes innovations, an issue not yet being addressed by a community effort focused on inclusion. In May 2015, CharlotteHeartsGigabit sponsored Charlotte in a multicity GigHacks event, which allowed local teams to create applications that utilized 1 Gbps. (Fitzpatrick made gigabit broadband available to the contestants at DC74 Data Centers.)

Fitzpatrick explains, "Some of the questions we get are, 'Why do we need it? What applications require

it? What does it mean?' To this end, we are building a Gigabit Studio at DC74 Data Centers to provide space for entrepreneurs to develop the next generation of gigabit apps. This will be an extension of the GigHacks weekend event and will serve as a showcase of applications that the community can see, touch and experience. The Gigabit Studio will open summer 2015."

#### DIGITAL INCLUSION

Google is concerned about the impact of its network on communities and has made digital inclusion a priority. For example, in May 2015, it launched a digital inclusion fellowship program that pairs 16 fellows with local

### GETTING READY FOR FIBER

Google continues to expand its roster of fiber cities. What is Google looking for, and how can communities prepare to succeed if approached to complete the checklist?

Specifically, Google is looking for:

- An agile city – Google moves fast
- A fully committed city leadership team
- A vision for how a gigabit will transform a community
- A detailed community plan with diverse partners and stakeholders that emphasizes digital media literacy
- Excellent communication and responsiveness during the checklist process
- A streamlined permitting process
- Ease of access to existing infrastructure.

Last (or perhaps first), cities are advised to become fiber ready by **proactively improving existing infrastructure.** "Implement a dig-once policy for construction projects," says Jess George, Google Charlotte's manager of community impact. "Update your building codes for fiber deployments. Provide space on poles for new attachers. These efforts will serve your city well whether you're pursuing Google or working with any other fiber network builder."

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community organizations to build digital inclusion programs in the eight Google Fiber cities.

Charlotte had a secret weapon in place long before the city was even on Google's radar: The James L. Knight School of Communication at Queens University of Charlotte was funded in 2010 with a \$6 million endowment from the Knight Foundation to focus on digital media literacy. Under the direction of Dean Eric Freedman, the Knight School brought together a cast of players that built a digital literacy playbook.

The first step was to create a digital media literacy index to establish a baseline for the city's existing digital literacy level. "We asked, 'Do people have the tools they need, the access, the ability to analyze and evaluate and share and create, to work with information in a networked environment?'" explains Freedman. "From our 2012 community survey, we created the digital media literacy index to see where we stand in terms of our performance as a city, and we were able to segment our data by ZIP code, age, ethnicity, education and income to locate populations with the greatest need. Once we knew where our baseline was, we created a number of initiatives that would have an impact, move the needle along the digital media literacy spectrum, and foster citywide engagement. We'll repeat the survey process again five years out, in 2017, measuring the impact of our initiatives and looking for changes in the digital media literacy index across the greater Charlotte area."

All the raw data and reports are accessible on [DigitalCharlotte.org](http://DigitalCharlotte.org), a public-facing Knight School initiative that launched in March 2013 and contains neighborhood toolkits, training programs, learning resources and community updates. However, the Knight School's efforts lacked one critical, costly component: infrastructure.

"We knew we could do the literacy training and advocacy, but what was missing for us was the

infrastructure," explains Freedman. "We had preliminary conversations with Time Warner Cable and other local providers, but we were not able to identify a sustainable solution. We didn't have the resources to crack the city's infrastructure problem, even though we had already identified those communities that were starving for infrastructure and might reap the most dramatic benefits. The data had been shared out, and other municipal agencies, including the Charlotte Mecklenburg Library, were surveying their populations, so we were on the same page and could see our findings and our goals aligning. The groundwork was done. So when Google came along, it sparked that conversation about infrastructure."

## THE CONVERSATION GOES PUBLIC

As part of its endowment, the Knight School sponsors an annual Best Minds conference about advocating for and advancing digital literacy, which is designed to help the Knight School develop and refine its strategies. Participants include representatives of various city agencies, Charlotte libraries and schools, Time Warner Cable, the Pew Research Center, Harvard's Berkman Center for Internet & Society, the NC State Board of Education, the Foundation for the Carolinas, the Robert R. McCormick Foundation and others.

With the Knight School's digital literacy work taking root, the Best Minds team considered transforming the conference into a public dialogue. The timing was fortuitous; Google had just begun considering Charlotte as a possible fiber city. In March 2014, as the Knight School began planning its fall 2014 conference, Freedman connected with Erica Swanson, Google Fiber's head of community impact programs, to share the details of the Knight School's mission and its developing digital literacy initiatives.

In October 2014, with the Google checklist process underway and the city looking toward fiber, Freedman invited Swanson to participate in the

next iteration of Best Minds, which was pushed to March 2015 to provide an opportunity for the Google Fiber expansion plans to unfold. Swanson accepted.

"We wanted to capture the conversation about fiber without making Best Minds a Google event per se," Freedman explains. "We wanted the conference to be a pivotal moment, and we were already shaping Best Minds into a public-facing dialogue. Our initial approach with Google Fiber [Swanson] was, 'This is who we are, and this is what we're doing here in Charlotte around digital literacy and inclusion – engaged in measurable activities with a broad array of citywide partners from diverse sectors, working inside our neighborhoods, listening to the needs of our residents and our civic leaders and developing Digital Charlotte as a sustainable, connected learning laboratory to drive the work forward. It was important to us, as we were conceptualizing Best Minds 2015, to have Erica participate in what was becoming a larger public event, as Google Fiber shared our investment in digital inclusion."

As these conversations continued throughout fall 2014 and into January 2015, Swanson saw at first hand the depth and breadth of the effort already underway in Charlotte.

The details of the Best Minds conference were being honed as the fiber checklist period came to an end on May 1, 2014. An announcement by Google was anticipated by the end of the year (and didn't actually come until the middle of January 2015). Freedman had already pushed back the date of the 2014 conference to allow Swanson an opportunity to reconnect with him about the status of fiber in Charlotte.

In the end, the 2015 Best Minds conference was set for March 20–21, 2015, to coincide with the city's third annual Digital Media Literacy Day (another Knight School initiative). Under the theme "Charlotte 2025: The Connected City," the conference was able to leverage the announcement about the city's new infrastructure plans and focus on Google Fiber's long-term

impact. “We timed the 2015 conference around the Google Fiber announce date and pulled together those voices that would highlight the relevance of fiber throughout our community – partnering with WFAE [the local public radio station], Project L.I.F.T. [an education-focused nonprofit], Pew, the Chamber of Commerce, Kansas City Digital Drive, UNC Charlotte’s Urban Institute and the city of Charlotte.”

Did Swanson’s experience with the Knight School and its partners and programs influence Google to choose Charlotte? Swanson was not available to comment, but Freedman thinks so. “As Google started to explore Charlotte, they had clearly spoken to a number of other partners who were familiar with our work and visited our classrooms. We were a Code for America city before Google came along, and they had visited our workshops, talked to our residents and asked for our data. We were an easy access point since we already had the data about our digital literacy level. Code for America could easily get a sense of Charlotte and see how well-organized the conversation had already become.

“I think the same thing happened when Google started to examine the local landscape. They asked, ‘What are the existing conversations? Is there momentum already?’ and I think they clearly saw there was conversation between the city, the county, the schools and libraries. In their fact-finding mission, Google heard the same names coming up over and over again, and a tight-knit community was in place, already vested in digital literacy.”

### A GALVANIZING EVENT

Freedman also opted to open up the Best Minds conference as a public event. Erica Swanson came back, along with Mary Ellen Player, Google’s Charlotte operations lead. The conference started with a full panel of key players describing their roles and followed the next day with breakout sessions that included neighborhood representatives and small-business people, all high on Google Fiber. The 2015 conference was a galvanizing event. The conversation gained momentum that has continued

in a series of bimonthly digital inclusion meetings sponsored by the city. These meetings include updates from the city and other partners, but they leave ample time for everyone to network and move forward with their own initiatives. With additional support from the Knight Foundation, the Knight School’s work is furthered by its recent hiring of a project manager for digital inclusion who will reach across organizational lines, develop a strategic plan for digital literacy and connectivity, and direct its implementation.

### GOOGLE IS HERE TO STAY

Google recently awarded the digital inclusion fellowships that it announced in May, including two in Charlotte. It also announced plans to bring Internet access to public housing residents as a part of the ConnectHome initiative.

During the long buildout period that has just begun, the community’s digital inclusion efforts will continue to mature, and when the infrastructure is finished, and the neighborhood registration process begins, Charlotte hopes to have a fiber network that will shrink its digital divide to the benefits of all rather than enlarge it to the benefit of a few.

“Google has come, but Google will not be gone,” says George. “We’re here, we’re part of the community, and once the massive infrastructure project is finished, Google will remain in the community and continue to improve, develop and expand the project.” ❖

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## THE ADVANTAGES OF BEING A SECOND-WAVE GOOGLE CITY

In Kansas City, Google went boldly where it had never gone before. From trenching to customer service, everything was new. Google made mistakes; Google learned. Second-wave cities are now reaping the benefits of Google’s fast learning curve. Aaron Deacon from KC Digital Drive knows. He was there. “Google learned a lot in Kansas City,” he says. “Basically, they learned everything about the business. From a very practical standpoint, how do you build a network? When they were first deploying here, there were reports of trenching messes and how they were working with contractors, all the PR around that. Building a fiber network was a completely new business for them.”

Also new for Google was interacting with consumers and being in their homes. “They didn’t have any consumer interaction experience,” Deacon continues. “It’s not what they do. You can’t call Google when your Gmail’s not working. So they learned a lot from an engineering standpoint, a marketing standpoint – even the product itself went through a number of iterations. Also, they learned about addressing the digital divide and coming up with solutions to improve it. They weren’t very cognizant of that in the beginning. Charlotte is benefiting from all that experience.”

Charlotte leaders seem aware of the changes. “There’s one thing I will say about Google,” says Phil Reiger, the city government’s point of contact for Google. “They are nimble and agile; they learn quickly, and they will change when they need to, which has been very exciting because they have learned so much from Kansas City and Austin. They are the first to admit it when they wish they’d done [things] differently, since they’re relatively new at this. So it was good that we didn’t compete to be in that first tier of cities. The mistakes they made there, they won’t replicate here.”