

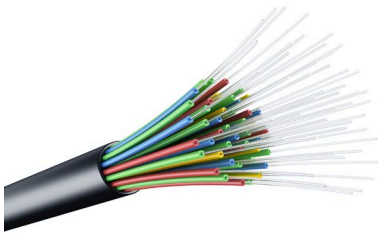
Google fiber

Google Fiber is an Internet and TV service that provides Internet connectivity that is up to 100 times faster than basic broadband speeds, along with hundreds of HD TV channels



What is Google Fiber?

Google Fiber gets its name from the thousands of miles of brand new fiber-optic cable we're building, right to people's homes. There's plenty of fiber-optic cable in America already, but very very little of it goes directly to people's homes — so this means your Internet signal travels at Autobahn speeds for most of its journey, but then slows down as it gets near your house. Google Fiber aims to change that.



Fiber-optic cables are made of fragile glass, so they're protected by many layers (made of a kevlar-like material) to keep them from breaking.

Google Fiber delivers Internet speeds at one gigabit per second. (Internet speeds are measured in bits per second — i.e. how many bits of data can be passed along the network each second.) This is up to 100 times faster than basic broadband speeds currently available in the US.

Fiber-optic cables are much better suited to 21st century communications demands than the copper cables that currently carry Internet signals to and from most American homes. Copper just wasn't built for what we're trying to use it for today. Fiber is far better than copper at transmitting information, such as the bits that make up your favorite websites, YouTube videos, video chats, or online games. In fact, it's close to the speed of light!

Internet speeds matter — faster speeds drive innovation, and they've been linked to economic growth and job creation. We believe the next chapter of the Internet will be built on gigabit speeds — just as the shift from dial-up to broadband brought us a wave of innovation (e.g. video, e-commerce) that we could never have imagined.

Where is Google Fiber right now?

Google announced in the spring of 2011 that Kansas City, Kansas, and Kansas City, Missouri, would be the first cities to receive Google Fiber. In April 2013, we announced two more cities — in Austin, Texas, and Provo, Utah. In Provo, where we bought and upgraded an existing network, we have customers up and running at gigabit speeds. We've started construction in Austin, and hope to begin hooking up our first customers later this year.

The impact of Google Fiber

Already there are many businesses moving to the "Silicon Prairie" to use a gig to build the apps of the future — for instance, SightDeck moved from California to Kansas City to build next-generation video-conferencing. A French cloud computing company, BIME Analytics, said they chose Kansas City as their North American HQ in part because of Google Fiber. And we've heard that other Internet providers are increasing their speeds and lowering prices.

Quick facts and stats

Only 7.7% of home Internet connections in the U.S. are fiber (compare to 68% in Japan, 62% in Korea)

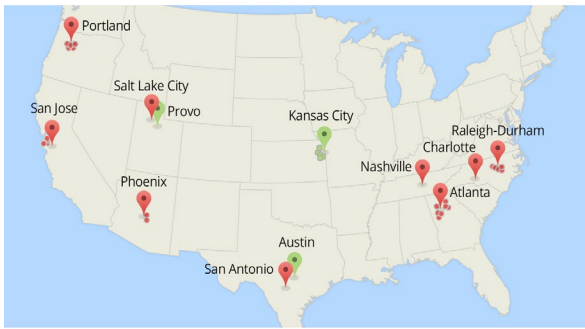
The average U.S. connection speed is 9.8 Mbps, which ranks 9th in the world

With a gigabit connection you can purchase and download a digital movie in a little less than 2 minutes

66% of Americans have connections slower than 10 Megabits per second

Nearly 150 fiber-to-the-home projects and dozens of gigabit Internet projects are underway in the U.S.

Sources: Akamai Q3 2013, OECD Broadband Portal, Netflix Speed Index



What's new today?

We're taking the next step toward expanding Google Fiber. We've invited a 34 cities in nine metro areas across the U.S. to work with us to explore what it would take to build a new fiber-optic network in their community. Many of these cities asked for Google Fiber in 2010 and have since continued to try to bring better Internet access to their residents.

What happens next? Teamwork.

It takes a lot of collaboration with cities to build a new network. Today we're starting a joint-planning process — basically a series of conversations and information-gathering exercises. Later this year, we'll have updates on which cities will get Google Fiber.

The 34 cities include: Arizona - Phoenix, Scottsdale, Tempe; California - San Jose, Santa Clara, Sunnyvale, Mountain View, Palo Alto; Georgia - Atlanta, Avondale Estates, Brookhaven, College Park, Decatur, East Point, Hapeville, Sandy Springs, Smyrna; Tennessee - Nashville-Davidson; North Carolina - Charlotte, Carrboro, Cary, Chapel Hill, Durham, Garner, Morrisville, Raleigh; Oregon - Portland, Beaverton, Hillsboro, Gresham, Lake Oswego, Tigard; Texas - San Antonio; Utah - Salt Lake City

Why we're doing it this way

Building Google Fiber is a big job. It's construction work — digging up streets and climbing up poles. This could be enormously disruptive to a community that's not ready for it — residents and city leaders alike. So we want to get ready together, up front, and make things as smooth and predictable for everyone as we can.

During this process, we will work with each city to map out in detail what it would look like to build a new fiber-optic network there. The most important part of this teamwork will be identifying what obstacles might pop up during network construction — and then working together to find the smoothest path around those obstacles. Some might be easy, some might take some creative thinking or a few months to iron out, and in some cases there might be such local complexities that we decide it's not the right time to build Google Fiber there. But we genuinely would like to build in all of these cities.

What Google does next

We're hitting the road to meet with all these cities. We're also conducting detailed studies of factors that affect construction plans in each place, like topography (e.g. hills, flood zones), housing density, and the condition of local infrastructure.

What cities do next

Cities will complete a checklist of items that will help get them ready for a fiber construction project -- and it's worth noting that getting these items ready would help any provider, not just Google. There are three general categories:

- **Provide detailed, accurate maps** — e.g. of existing infrastructure like utility poles, conduit, and water, gas, and electricity lines.
- **Ensure we can access and put our fiber on existing poles or conduit** — since we don't want to dig up streets unnecessarily or put up duplicate poles
- **Review permitting processes to make sure cities can handle as much as 100x their usual number of permit requests** — once we start building, we want to move quickly and on a predictable schedule

Getting ready for fiber is good for cities. No matter the outcome, cities that go through this process will take a big step forward in making their cities ready for the fiber-optic networks that are the future. And we're going to share what we learn from this process with other cities around the US so they can get a head start in their thinking about improving broadband speed and choice for their residents.

More information

Google Fiber website: www.google.com/fiber

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