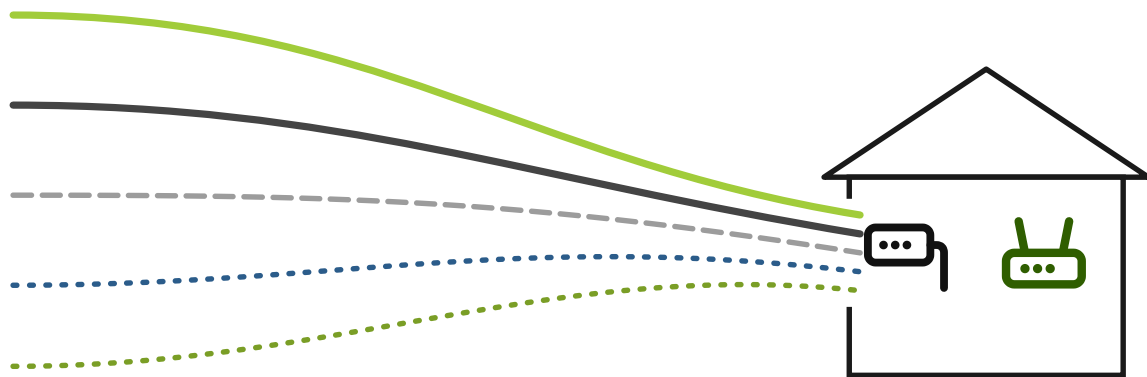


Home Internet, Explained

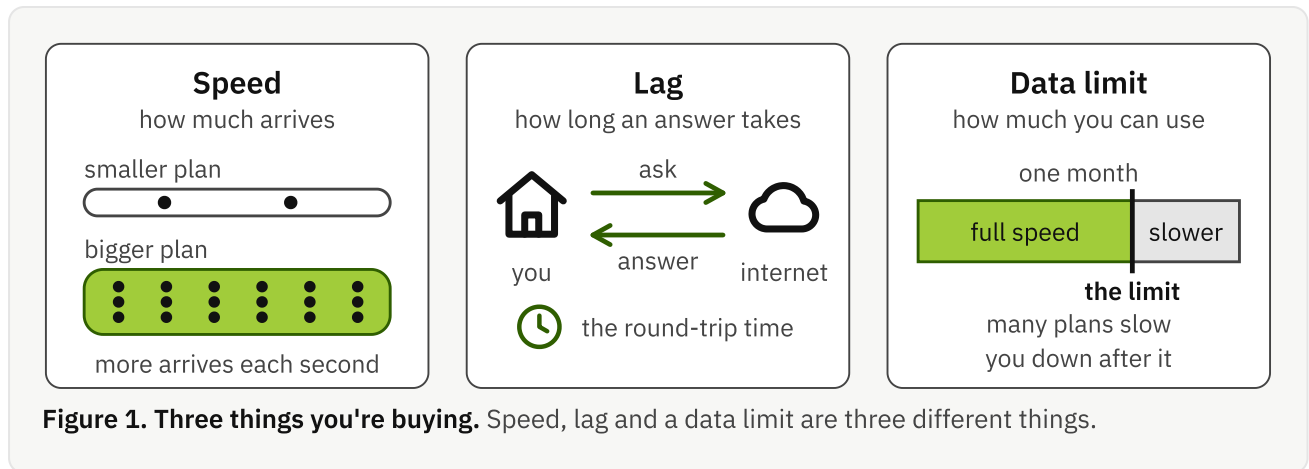
The six ways internet reaches your house, what to ask before you sign up, and why your Wi-Fi is a separate question.



The short answer

Internet reaches your house in one of six ways. Five end at a box from your provider. A phone hotspot is its own box. Your Wi-Fi starts at the router, right after that box.

This guide answers three questions. What are your choices? Why does it matter which one you pick? And what should you check before you sign up?



A word on the words

Your **provider** is the company you pay. Their **box** is where their line ends in your house. The **router** plugs into that box and makes your Wi-Fi. Often one box does both jobs.

The one idea to remember

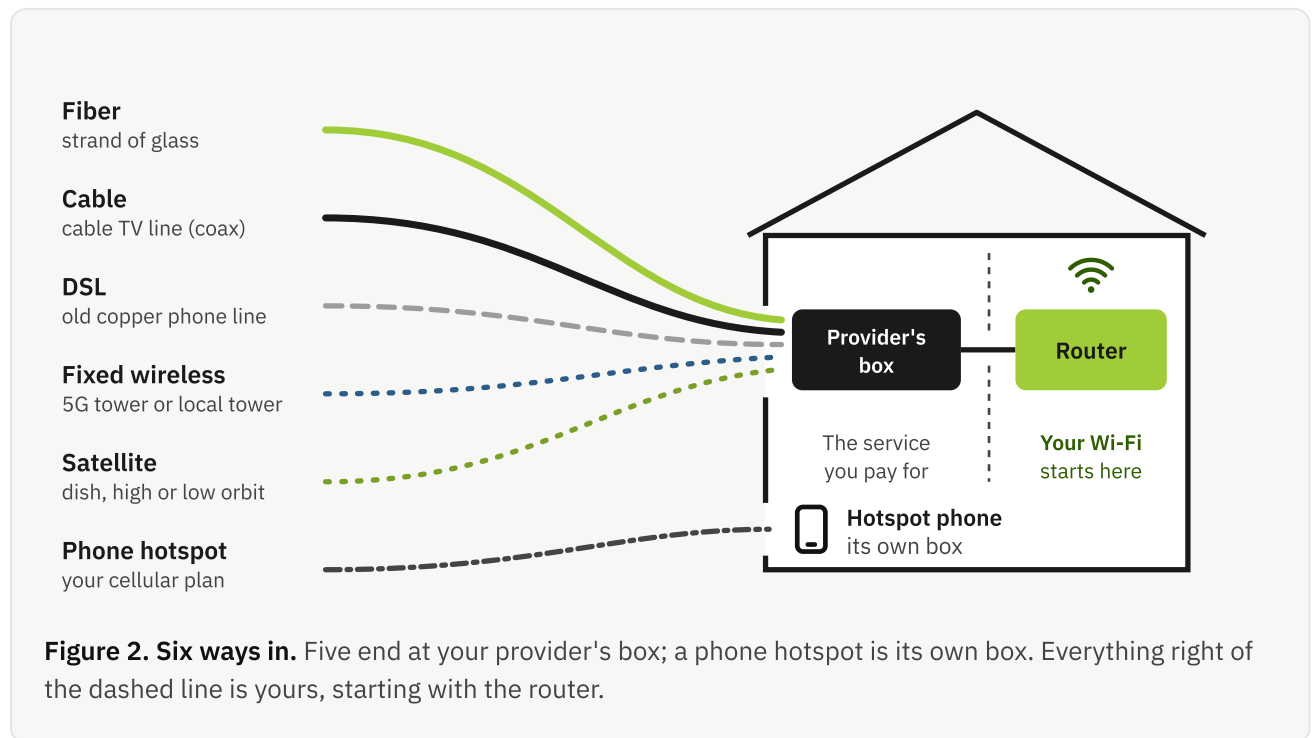
The service you pay for stops at the router. The Wi-Fi inside your house is a separate thing. A faster plan won't fix a slow back bedroom.

What's inside

Six ways in	3	The service, or the Wi-Fi?	10
Every road is shared	4	Which one should I pick?	11
Wires to your house	5	Four things people get wrong	13
Radio to your house	7	Where these facts come from	14
Why lag is its own number	9		

Six ways in

A strand of glass, a cable TV line, an old phone line, a radio tower, a satellite dish, or your phone. Most end at the same place: a box in your house.



That handoff point matters. When something is slow, the first question is which side of the line the problem is on.

Every road is shared

No home gets a private pipe. Every kind of service shares something with the neighbors.

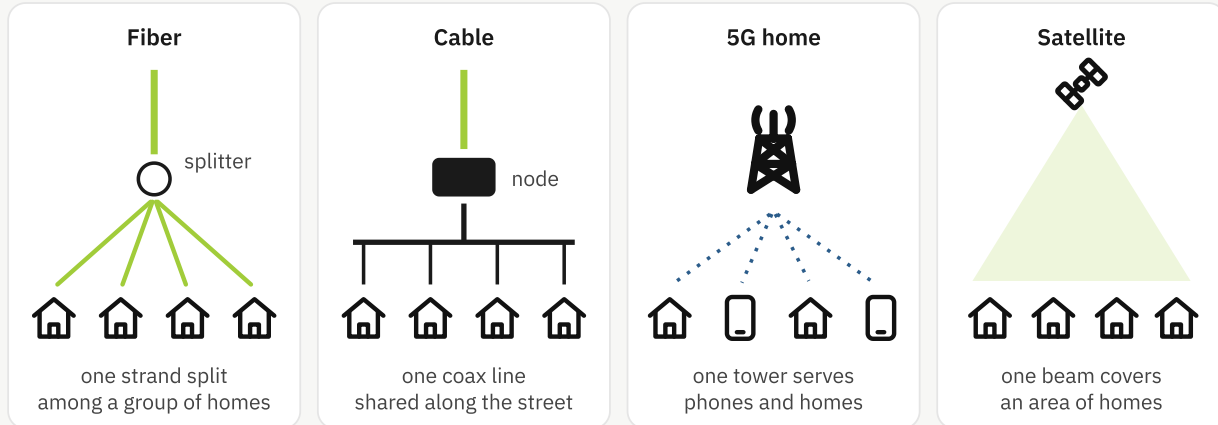


Figure 3. What each option shares. Fiber splits one strand among a group of homes. Cable shares one line along the street. A cell tower and a satellite beam each serve many homes at once.

That's why the same plan can feel fast at noon and slow at eight at night. More neighbors are online.

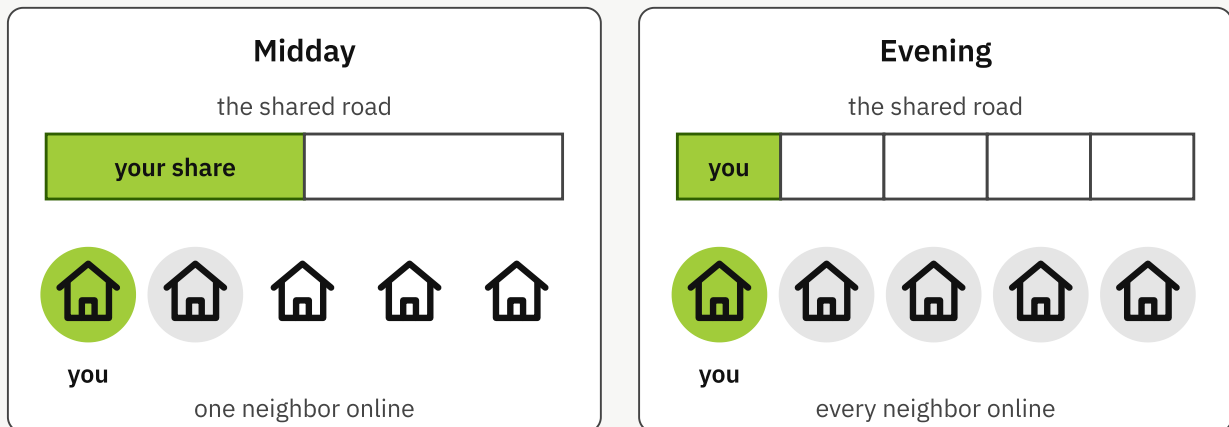
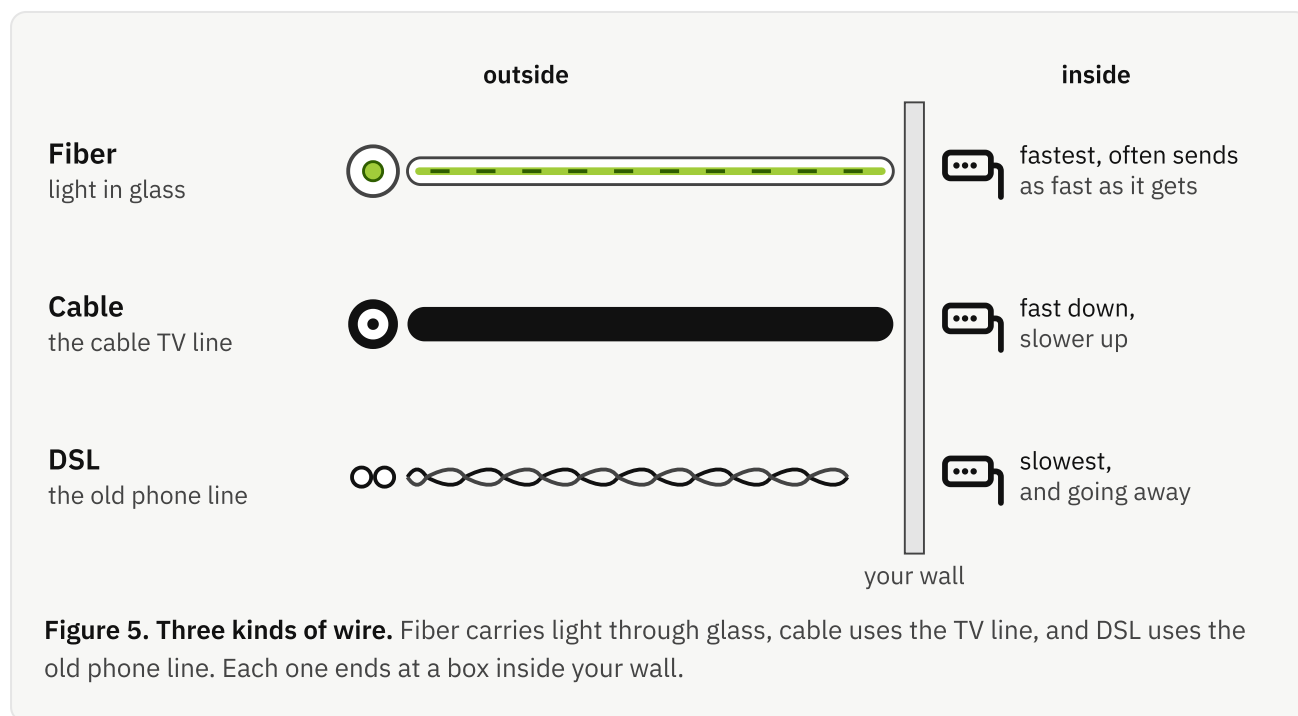


Figure 4. Same plan, busier road. In the evening more neighbors share the same road, so each home's share gets smaller. The lime part is yours.

Wires to your house

A wire into your house is usually the steadiest choice. Rain and snow don't slow it down.



Fiber

Light through a glass strand. The fastest, the quickest to answer, and it often sends as fast as it receives.

Cable

The same line as cable TV. Fast downloads. Sending is much slower.

DSL

The old phone line. The slowest wired choice, and it gets slower the farther you live from the phone company.

YOUR CHOICES

Down arrow: download. Up arrow: upload. Widths show the usual balance, not exact speeds.

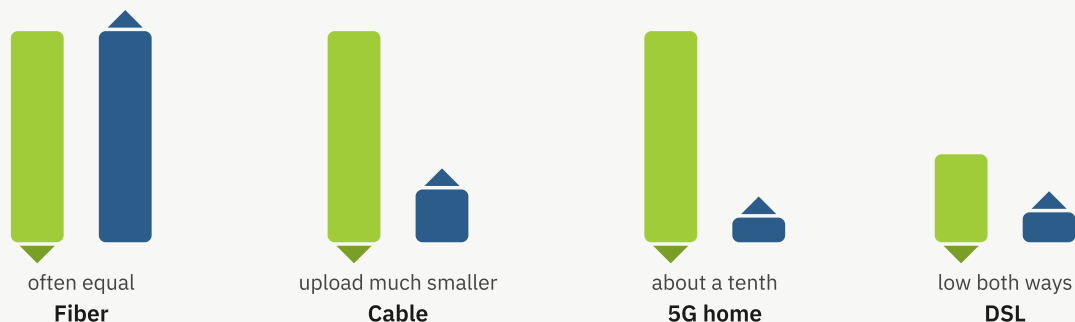


Figure 6. Sending matters too. Video calls, photo backups and cameras send data up. Fiber often sends as fast as it receives. Cable and 5G home internet send much less.

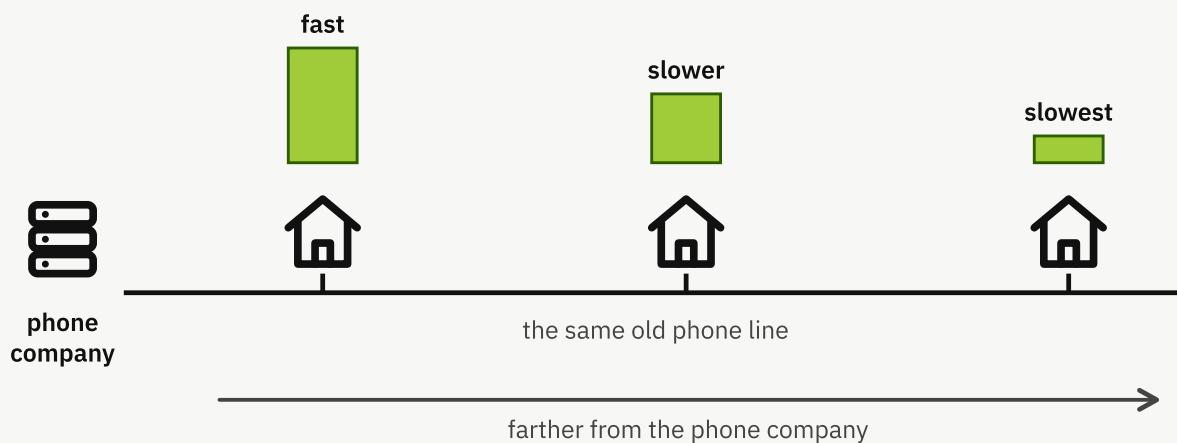


Figure 7. DSL slows with distance. The same phone line gives slower service to homes farther from the phone company. Not to scale.

⚠ CAUTION

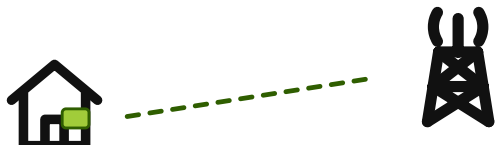
DSL is going away

Phone companies are shutting down their old copper lines. If DSL is all you have, look now for other choices at your address.

Radio to your house

No wire? A radio link can reach almost anywhere. It's more at the mercy of weather, trees and busy times.

5G home internet



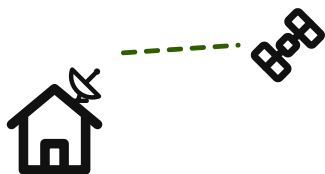
a box in a window talks to a phone tower

Local wireless



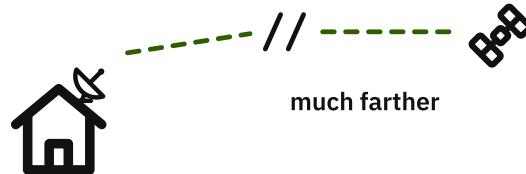
a roof antenna needs a clear view of the tower

Low-orbit satellite



close by, so answers come back fast

High-orbit satellite



far out in space, so every answer is slow

Figure 8. Four ways radio reaches a house. Towers need a clear path, satellites need open sky, and the far satellite answers slowly. Not to scale.

5G home internet

A box in your window talks to the same towers your phone uses. It slows down when the tower is busy.

Local wireless

A small local company aims an antenna on your roof at its tower. It needs a clear view.

Low-orbit satellite

A dish talks to satellites flying fairly low, like Starlink. Quick to answer, and it works almost anywhere with open sky.

High-orbit satellite

A dish aims at one satellite far out in space. It works, but every answer takes a long trip.

YOUR CHOICES

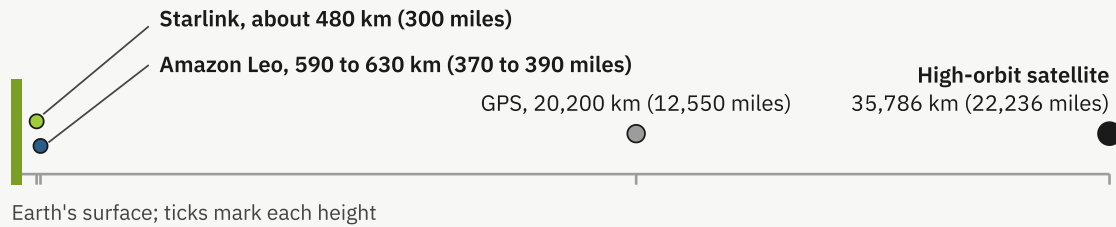


Figure 9. Low orbit and high orbit. Low-orbit satellites fly just above the Earth. A high-orbit satellite sits far out in space, so every answer takes much longer to come back.

A **phone hotspot** uses your phone's data plan. It's fine for a trip, or as a backup. It's a poor fit for a whole family.

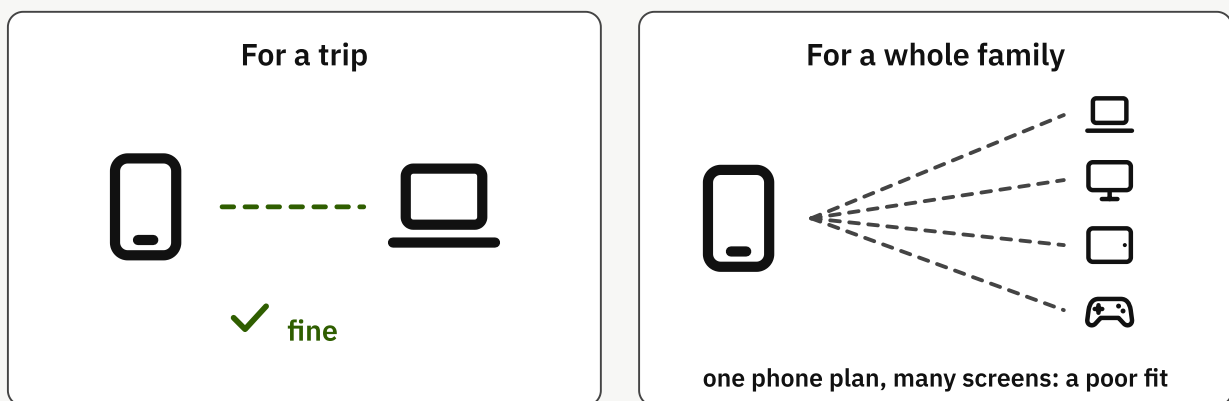


Figure 10. A hotspot is for one or two devices. Your phone can share its data with a laptop on a trip. Sharing it with a whole house of screens is a poor fit.

Why lag is its own number

Speed is how much arrives. Lag is how long each answer takes to come back. They're two different things.

Lag decides whether a video call feels natural or a game feels smooth. A faster plan barely changes it.

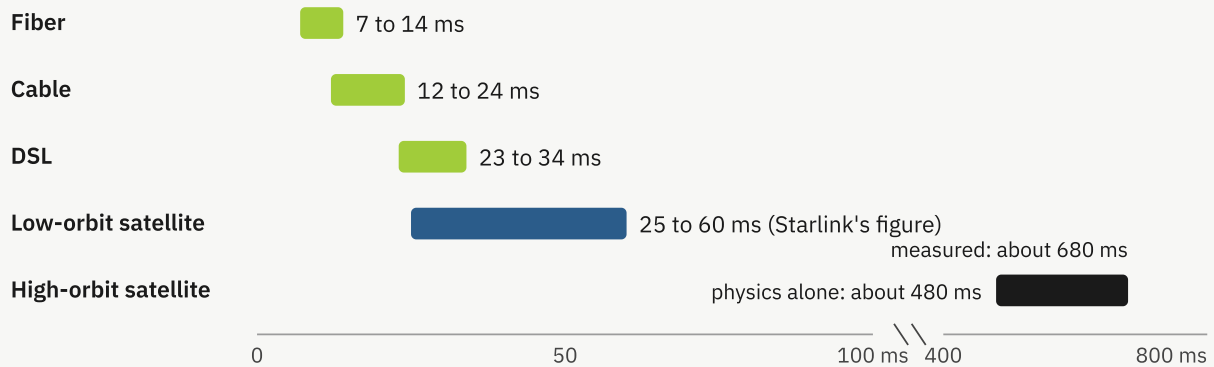


Figure 11. How long an answer takes. Wired service and low-orbit satellites answer quickly. A satellite far above the equator adds about half a second, which you notice on every call.

Lag also rises when someone else in the house is streaming or uploading. That's normal. It rises most on DSL.

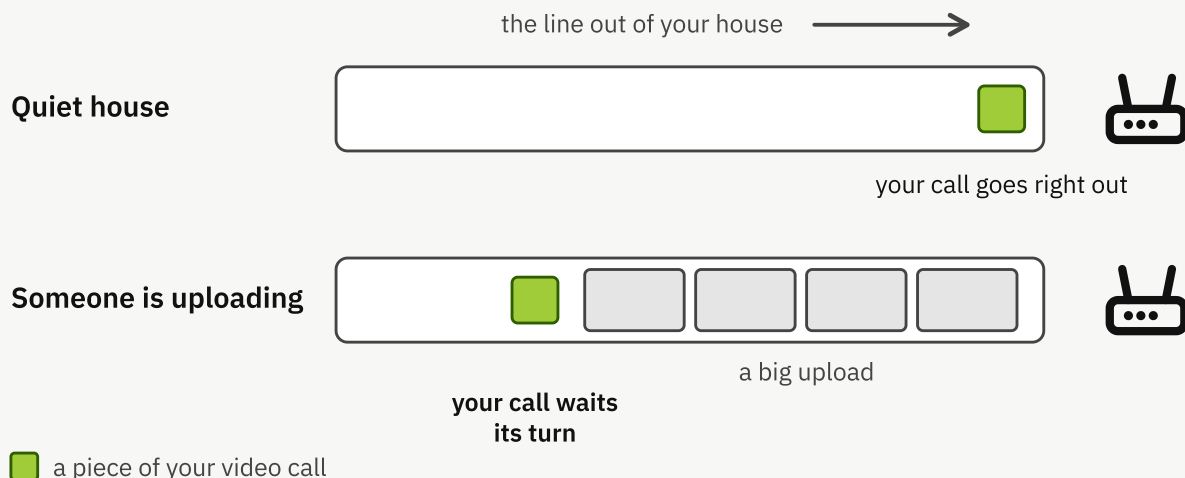


Figure 12. A busy line means a longer wait. When someone uploads, your video call waits in line behind it. That wait is lag.

The service, or the Wi-Fi?

A speed test on your phone measures two things at once: your service and your Wi-Fi.

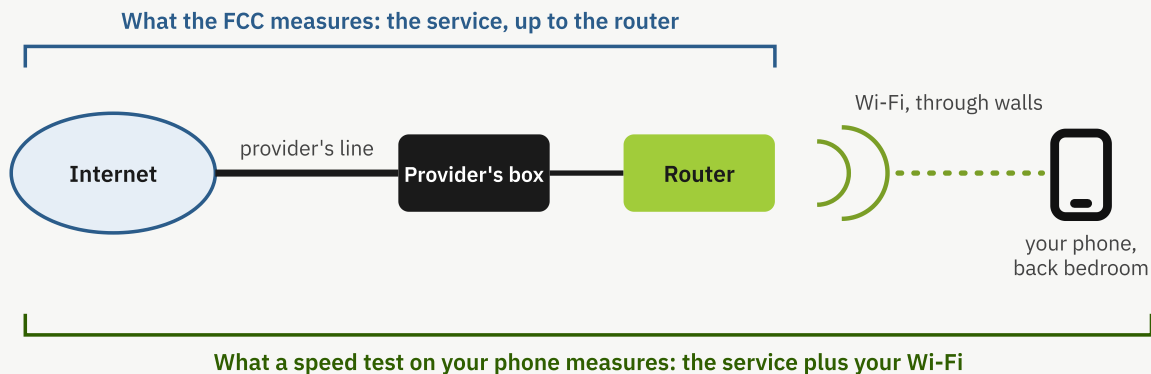


Figure 13. Two different measurements. The provider's promise ends at the router. Your phone in the back bedroom adds the Wi-Fi on top. When the two tests disagree, the difference is your Wi-Fi.

Test both ways

- 1 Plug a laptop into the router with a network cable. Run a speed test. That's the service you pay for.
- 2 Take the laptop or your phone to the room that feels slow. Run the test again over Wi-Fi.
- 3 Compare. If only the Wi-Fi test is slow, the fix is in your house, not a bigger plan.

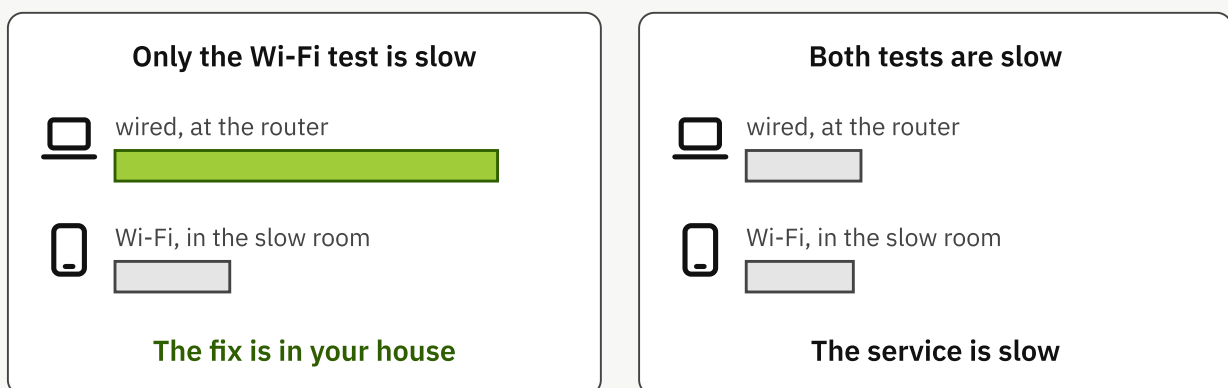


Figure 14. What the two tests tell you. If only the Wi-Fi test is slow, fix the Wi-Fi. If the wired test is slow too, the service itself is slow.

CHOOSING

Which one should I pick?

Start at the top, and stop at the first one you can get.

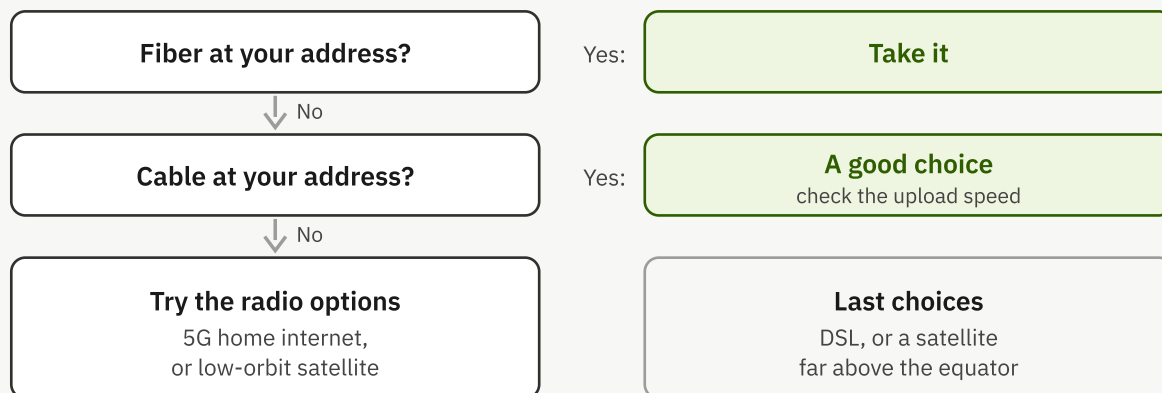


Figure 15. Pick in this order. Fiber first, then cable. Without a wire, try 5G home internet or a low-orbit satellite before the last choices.

Look up your address

The FCC's national broadband map shows which providers say they serve your home. If a listing is wrong, you can challenge it.

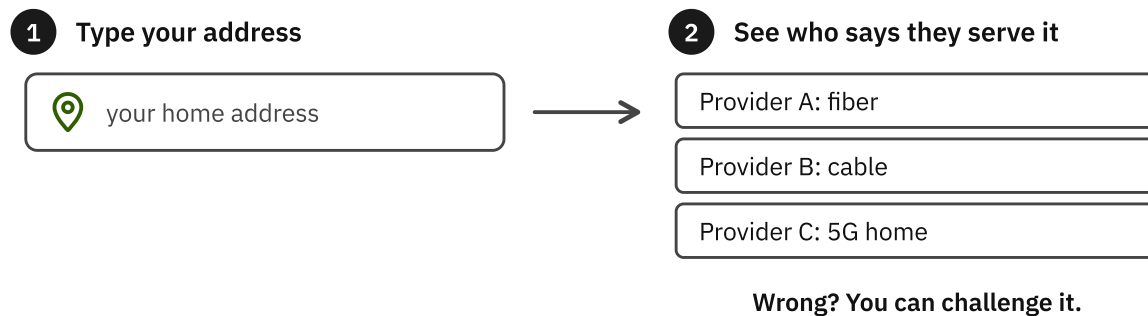


Figure 16. See who serves your address. Type your address on the FCC's national broadband map, then read the list. Names here are examples.

CHOOSING

Before you sign up

Every provider has to show a **Broadband Facts** label on its sign-up page. It's like a food label. Read it for the upload speed, any monthly data limit, and the real price after any promotion.

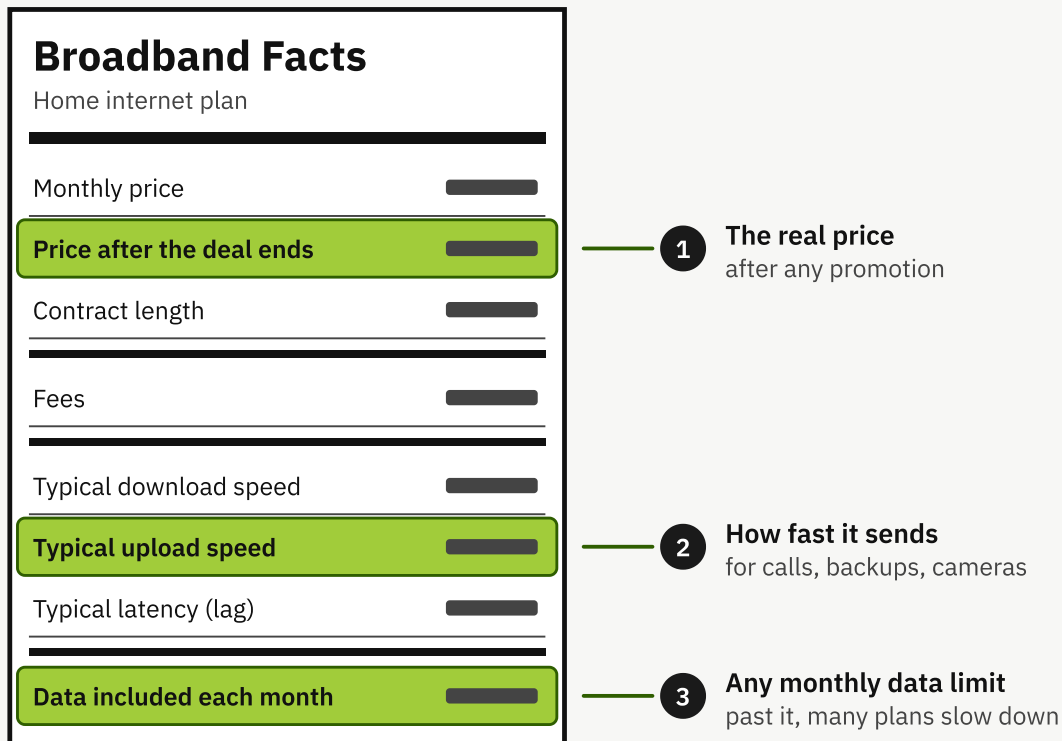


Figure 17. Read three lines on the label. The real price after any deal, the upload speed, and any monthly data limit. Simplified: a real label has more lines.

STRAIGHT FACTS

Four things people get wrong

Each myth is followed by what's true.

MYTH Slow in the bedroom means a slow internet plan.

FACT Often it's the Wi-Fi. Test at the router first.

MYTH A faster plan fixes lag.

FACT Lag and speed are different things. More speed doesn't lower lag.

MYTH Upload doesn't matter.

FACT Video calls, backups and cameras all send data up. Cable and 5G send much less than they receive.

MYTH Unlimited means unlimited.

FACT Many plans slow you down after a monthly amount. The Broadband Facts label tells you where.

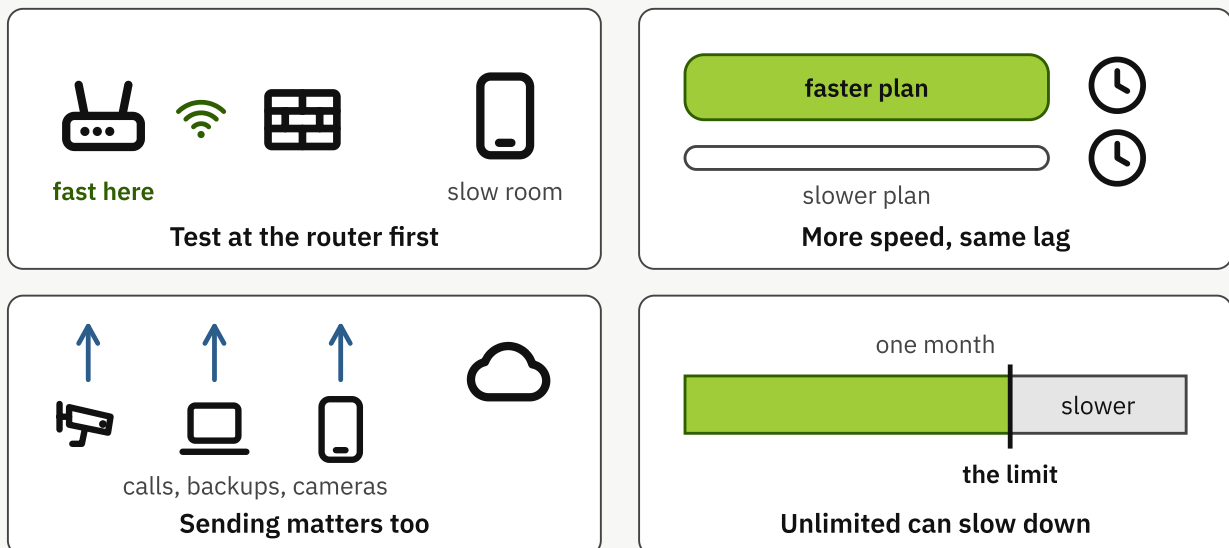


Figure 18. The four myths in pictures. Each picture matches a myth above, in the same order.

SOURCES

Where these facts come from

Checked on 27 September 2026. Provider plans change often. The Broadband Facts label is always the current word for your address. Prices are deliberately left out.

- FCC, Thirteenth Measuring Broadband America Fixed Broadband Report, FCC 24-136, Appendix C (2024; test period 2022): idle latency by technology, latency under load, DSL delivery of advertised speed, test boxes at the router
- FCC Broadband Data Collection and National Broadband Map help pages: what the map shows, the December 2025 data, availability and location challenges
- FCC Broadband Consumer Labels (fcc.gov/broadbandlabels) and FCC 22-7
- Broadband Breakfast, 2026-01-13: AT&T approval to discontinue copper service
- T-Mobile Home Internet FAQ and plans pages: typical speeds and data prioritization
- Starlink Specifications (latency 25 to 60 ms on land; upload typically 10 to 30 Mbps)
- ESA, Types of orbits (35,786 km, 22,236 miles); GPS.gov, Space Segment (20,200 km, 12,550 miles)
- Speed-of-light arithmetic: $4 \times 35,786 \text{ km} \div 299,792 \text{ km/s} \approx 0.48 \text{ s}$

About this guide

Written for people who aren't technical and want to choose home internet with their eyes open. Provider and product names are trademarks of their owners. This guide is independent and isn't affiliated with or endorsed by any provider named in it.