

QUARTZ MEMBERSHIP



How Amazon is building its logistics empire

Member exclusive by



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25 years ago, Amazon began transforming retail. It's transforming logistics, too.

Amazon's success has always hinged on two elements: variety and cost. But in recent years, a third element has become equally important: speed. Ever-faster delivery (sometimes offered at no additional cost to consumers) isn't just remaking Amazon's retail business. It's transforming the entire logistics industry.

2005

Amazon Prime debuts with free two-day shipping on some purchases in the US.

2006

Fulfillment by Amazon enables third-party sellers to offload inventory, shipping, and customer service onto Amazon for a fee. This marks a turning point, when Amazon begins treating logistics as a business in its own right.

2011

Amazon Lockers allow shoppers to have packages delivered to secure, self-service delivery sites.

2014

Prime Now begins offering free two-hour delivery.

2015

Some items become eligible for **same-day and one-day shipping**.

2016

Amazon unveils **Prime Air** jets, which the company initially intends to use mainly during peak shipping periods.

2017

Amazon Key enables Prime members to receive in-home deliveries while away from home.

2018

Prime members get access to a service that delivers packages to the **trunks of their cars**.

2019

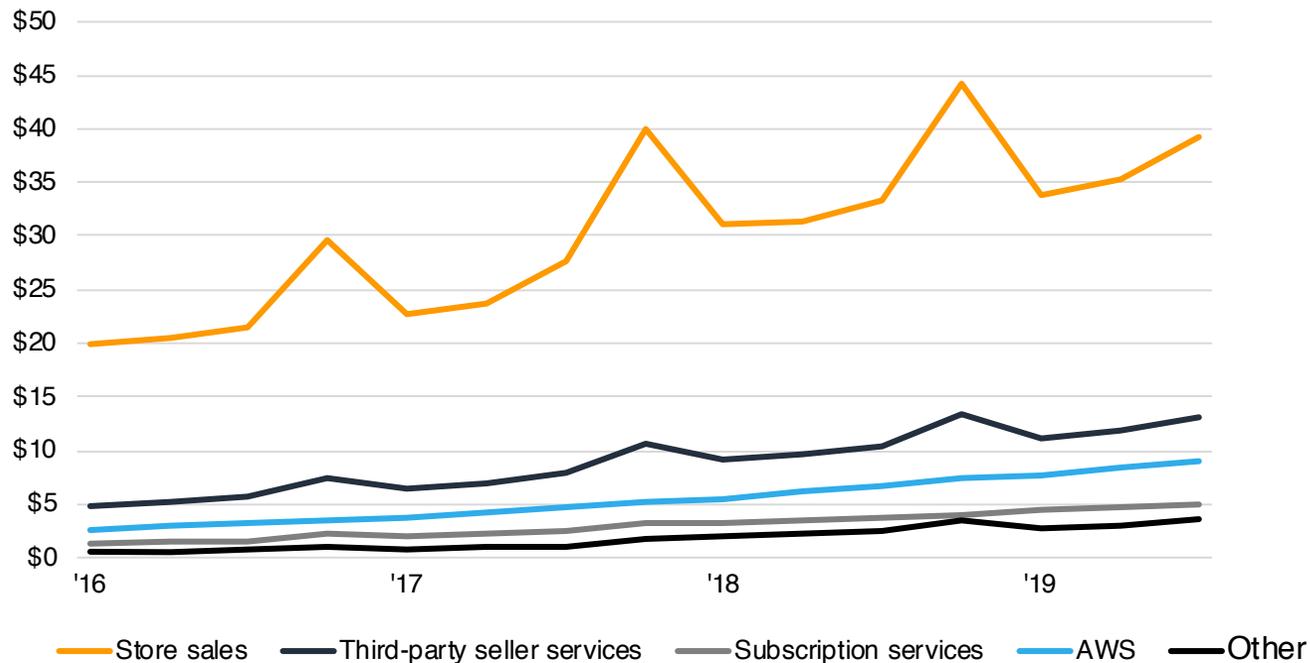
Prime begins transitioning to **free one-day shipping**, rather than two-day.

FedEx ends its contract with Amazon, which adds to speculation that Amazon will soon move its entire shipping and logistics operation in-house.

Amazon's empire has many pieces

And nearly all of them rely on logistics. Amazon makes its most of its money from business lines that depend on ultra-efficient logistics: online retail, physical stores, and services for third-party sellers. Amazon Web Services (AWS) and online advertising revenue also contribute to the company's bottom line.

Quarterly sales by business line, billions



In the long run, we're going to have a combination both of our own [shipping] capacity certainly fueled by help from third-party carriers—large carriers that we've used in the past. So we see a role for all carriers, in fact, including the delivery service partner program that we've developed to help spur small businesses.

Brian T. Olsavsky Senior VP and CFO, on Amazon's most recent earnings call

Is Amazon trying to eliminate third-party shipping companies?

Today, 50% of US Amazon.com orders are delivered to customers by Amazon, not outside carriers. The question now is whether the company intends to take their shipping business a step further to rival—not just internally replace—shipping giants like UPS and FedEx. Executives insist this isn't the plan, but the company's massive logistics operation is expanding rapidly.



400

fulfillment, sorting,
and delivery centers
worldwide



125,000

full-time employees at
North American
fulfillment centers



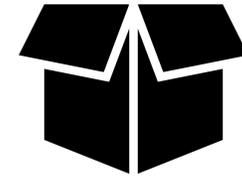
60

Prime Air
delivery planes



20,000

ground-shipping
trucks



5 million

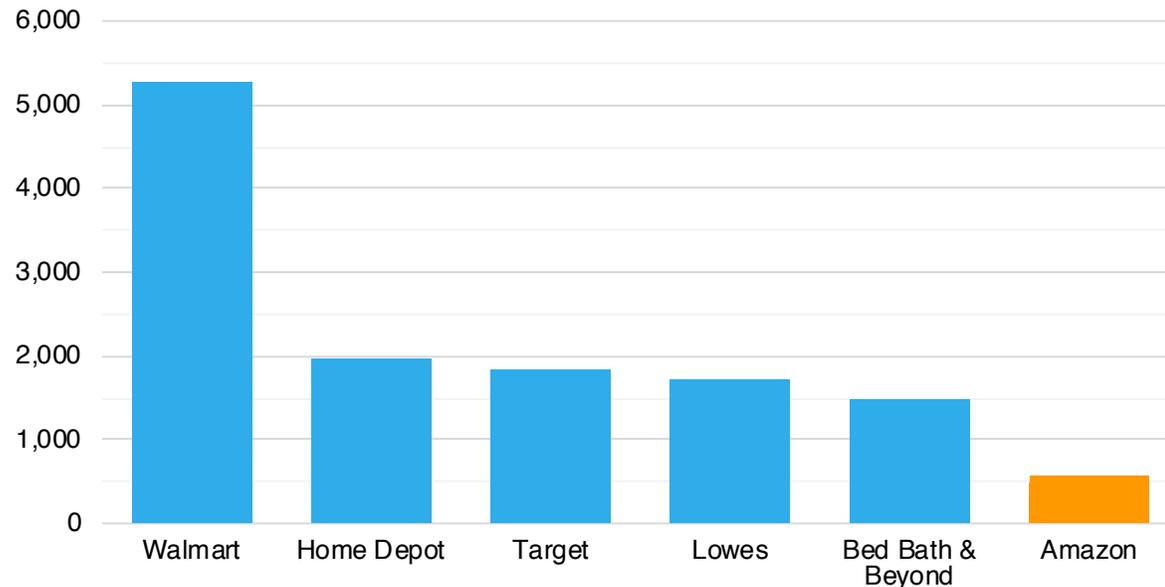
average daily
shipments in the US

Amazon started the delivery race. Winning still won't be easy.

After years of losing customers to Amazon's convenience, major retailers are rebuilding their e-commerce and delivery services. Walmart is making plans to match Amazon's free one-day shipping policy. Target has acquired last-mile delivery startup Shipt. Though Amazon's last-mile delivery operation still outpaces that of Walmart and Target, big box retailers do have at least one advantage: Stores that can essentially double as local distribution hubs, with both drivers and customers able to pick up online orders.

Major retailers' store counts

Amazon includes Whole Foods supermarkets, Amazon-branded stores, and order fulfillment centers

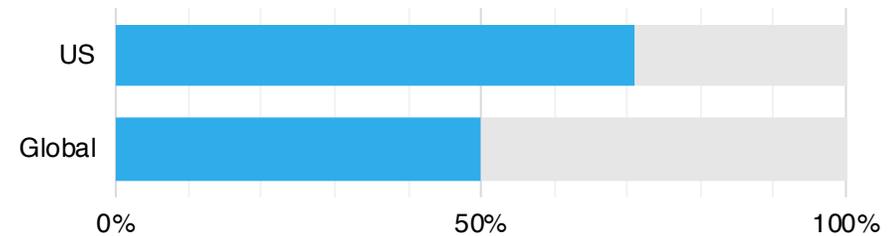


Amazon's logistics business is a key driver of growth and revenue

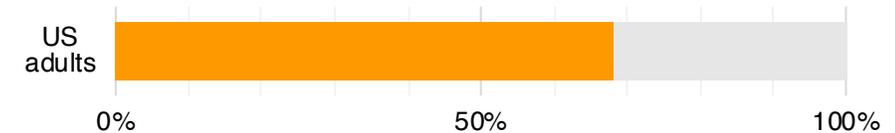
Amazon doesn't report logistics revenue separately, likely because logistics is inextricably tied to the company's other business lines.

- **Prime membership** now offers a number of perks beyond shopping, but the main selling point is still the ability to buy millions of affordable items that can be delivered in one or two days at no additional cost. Prime's popularity is probably the best business case for Amazon's investment in efficient logistics.
- **Third-party seller fees** include everything Amazon charges third-party sellers to sell, store, and deliver merchandise.
- **Increased sales.** It's impossible to say exactly how much ever-faster shipping boosts Amazon's sales.

Percentage of Amazon users with Prime



Percentage of Amazon shoppers who used Prime shipping in the past year



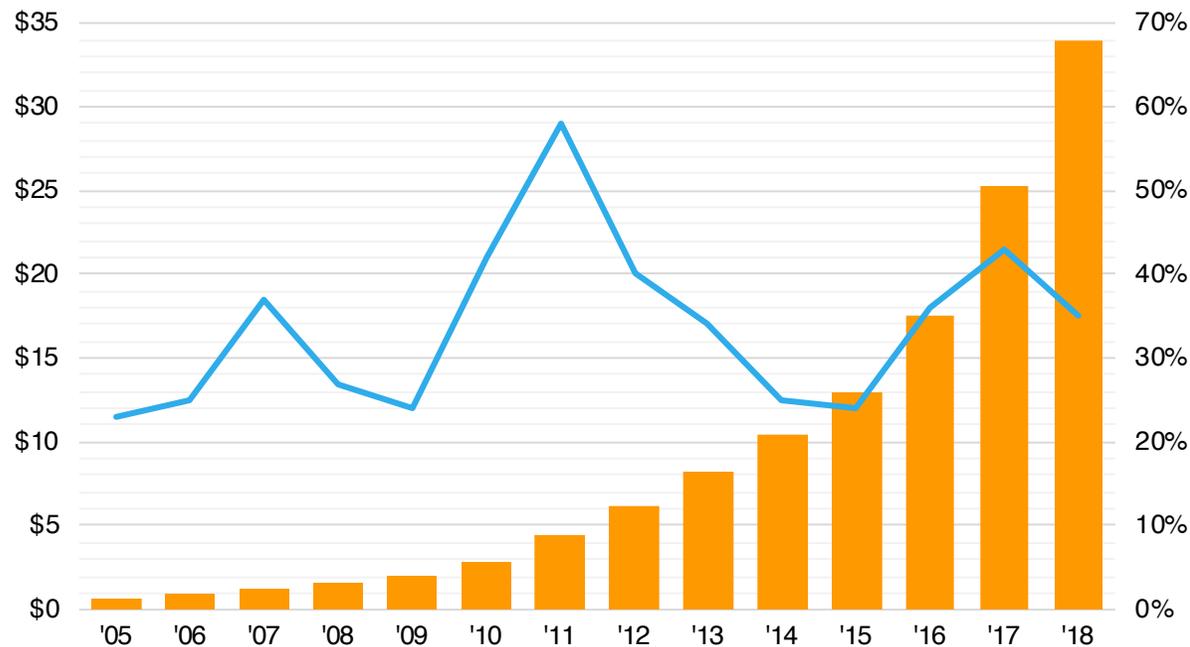
Annual Amazon spending, by Prime status



...but it comes at a cost

Amazon spent \$34 billion on fulfillment costs last year—nearly 46 times more than it spent the year Prime launched. In that period, costs grew more than sales: 2018 net sales were 26 times higher than 2005 net sales.

Annual fulfillment costs in billions and year-over-year increase
since Amazon Prime's launch in 2005





We increased [...] close to 100,000 people in Q3, meaning we were up 20% year-over-year. In the past, that pointed to investments in technology teams, and that's certainly part of it, but by and away, the biggest driver this time is the people that we're adding for fulfillment and transportation roles.

Brian T. Olsavsky Senior VP and CFO, on Amazon's most recent earnings call

Help wanted: The labor force behind Amazon's shipping empire

Amazon has more than 650,000 employees worldwide. Of those, 125,000 work full-time in North American fulfillment centers. But neither figure really captures how many people work for Amazon. Contractors, including seasonal employees (100,000 last year) and package delivery drivers, aren't included. Demand for workers is only growing. Hiring for fulfillment and warehouse roles is up tenfold from last year.

Job postings for fulfillment and warehouse associates



Amazon is transforming labor, too

Amazon has changed consumer expectations of how fast and cheap shipping should be, but workers across the logistics industry have borne the burden of meeting those expectations. Amazon warehouse workers have reported limited bathroom breaks, high performance quotas, and work-related pain severe enough to require medication.

Amid public outcry, Prime boycotts, and employee walk-outs, Amazon has announced some programs meant to improve logistics workers' experiences:

- In October 2018, Amazon announced a company-wide **\$15 minimum wage** after Vermont senator Bernie Sanders introduced a “Stop BEZOS Bill.”
- In July, the company committed \$700 million to **retrain 100,000 employees** for higher-skilled jobs by 2025.
- Amazon employees can receive \$10,000 to start their own business as **Amazon Delivery Service Partners**—third-party companies set up to help Amazon fulfill last-mile delivery.

“It’s not humans vs. robots, it’s humans + robots”

That’s how Amazon’s website sums up the company’s campaign to automate its warehouses. In the long-term, Amazon is hoping to avoid the human toll of its shipping ambitions altogether. In 2012, the company bought AI robotics startup Kiva Systems and began building Amazon Robotics in an effort to automate (and speed up) the hardest of its warehouse work. Today, 26 of the company’s 175 fulfillment centers use robots to perform key roles.

100,000

“drive units” transport packages around warehouse grounds

6

“robo-stows” lift packages onto warehouse shelves and delivery trucks

30

“palletizers” identify and sort items for storage and shipping

Logistics for the future

Amazon's vision for 21st century logistics goes beyond automated warehouses. For several years, the company has been committed to developing autonomous technologies that can carry out short- and long-distance delivery. Drones, self-driving cargo trucks, and delivery robots are all in the works. Amazon is backing up its goals up with cash. The company joined Google, Tesla, and others in a \$530 million fundraising round for autonomous vehicle startup Aurora Innovations.



At least one AV project is already in the pilot phase. At the beginning of this year, Amazon began making some small deliveries in Washington using six cooler-sized vehicles called Scouts.

Want to know more? Read more Quartz coverage of Amazon.

- [We wouldn't have ecommerce without Amazon](#) – For a history of Amazon's ecommerce dominance.
- [Amazon is everywhere, and companies can't stop talking about it](#) – To understand why “ignoring Amazon.com Inc. is no longer a viable option” for modern businesses.
- [How one Amazon warehouse prepare for Prime Day](#) – For an inside look at how automation changes logistics work.
- [Wall Street can't stand when Amazon invests in itself](#) – If you're curious about the market's reaction to Amazon's growing sales *and* costs.
- [If you're boycotting Amazon, here's everything else you have to forego](#) – For an exhaustive list of just how far the Amazon-Bezos empire extends.
- [Who does Amazon help the most?](#) – If you want to know who Amazon shoppers are and how much they're saving.

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