

Mapping in Logistics Report: The Impact of Broken Maps on Last-Mile Deliveries

The world is changing fast and we're living in times where streets are increasingly becoming the new factory floors. Part of this trend is that more and more shopping is done online. The US had 258.9 million online shoppers in 2018, but that number is set to reach more than 300 million by 2023.¹ Meanwhile, promises around shipping are getting increasingly ambitious with players like Amazon, Walmart, and Best Buy rolling out same-day deliveries in locations all across the US in 2019.

As a result, the pressure on maps to be accurate and up to date is skyrocketing. To most people, maps work fine, and it's usually just a bit annoying whenever they don't. But to logistics companies that are under mounting pressure to deliver more parcels at a faster pace, the state of maps has never been more important for their day-to-day operations.

That's why we surveyed hundreds of last-mile delivery drivers to find out where maps fail and ultimately set logistics companies back.

The findings show that although most maps work fine most of the time, they still set logistics companies back billions of dollars every year. More than a third of drivers are held back by map issues every single day, with 12% having issues with the map during every delivery—so it's no wonder that 99% of drivers say that they would be more efficient if they had better maps. Problems like being directed to the wrong drop-off point, not finding the building entrance, and being recommended inefficient routes waste precious time and have a significant impact on the bottom financial lines of logistics companies.

Key findings

\$611 million

The amount of money wasted on gas every year due to the map giving drivers faulty routes

7 million

The number of minutes lost every day as maps don't provide drivers with enough detailed information about building entrances

\$2.5 billion

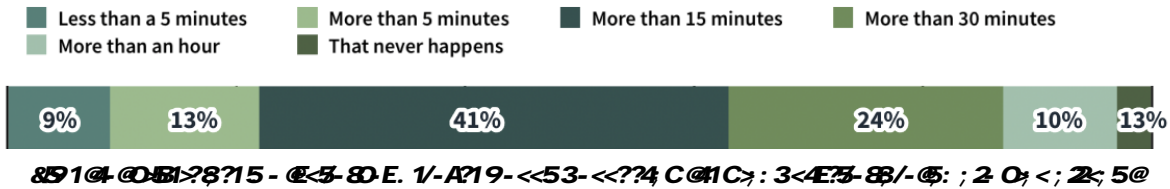
The amount of money wasted annually due to the map taking drivers to the wrong location



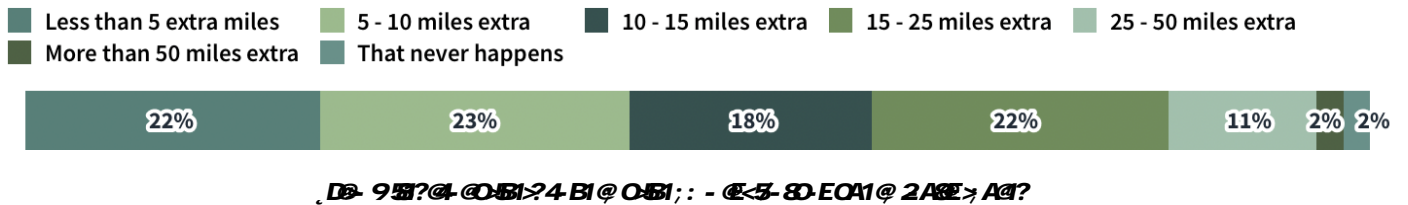


The impact of broken maps, from leaving the depot to finding a spot for drop-off

The problems with broken maps begin already as drivers start their day. Logistics companies lose substantial amounts of time every day as maps direct drivers to the wrong physical location of drop-off points. Three out of four drivers lose more than 15 minutes a day because of maps showing the wrong information about a location, with nearly one third saying that they lose 30 minutes because of this on a typical day. Unfortunately, it's not uncommon that drivers spend more than three hours on this during a single day: 7% of drivers reported that this had happened to them in the past month. As a result, logistics companies lose an estimated \$2.5 billion annually on wages only, not accounting for gas or wear and tear.



The cost of gas is another significant expense that comes as a direct result of broken maps. More than half of drivers are forced to drive more than 10 miles extra per day due to the map suggesting faulty routes. 11% even drive more than 25 extra miles per day for this reason, setting logistics companies back by \$611 million every year.



Even when drivers get to the right location, finding the exact location becomes a big problem as maps don't have the level of detail that logistics drivers need. Once in the immediate vicinity of the drop-off location, it typically takes 72% of drivers at least four minutes to find things like building numbers and entrances. In other words, maps not having enough information about building entrances poses a huge cost to logistics companies. Even if we assume that drivers only make one delivery per day, that's still nearly 7 million minutes, or more than 13 years, wasted every day. Or, more than \$1.5 million spent⁴⁴ looking for the specific drop-off location—every single day.



Less than a minute
 2-3 minutes
 4-6 minutes
 7-10 minutes
 More than 10 minutes



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Sometimes it’s not a matter of finding the location or even drop-off location, but rather arriving at the drop-off location earlier than planned. If the map isn’t up to date on speed limits and suggests that it will take longer to get to the location than it actually does, drivers are stuck as a result and have to wait around for the right delivery window. 96% of drivers waste time waiting for the right delivery window every day, with 35% of drivers spending more than 30 minutes a day on this—costing logistics companies \$6.8 million daily, or \$2.5 billion annually.

Less than a 15 minutes
 15-30 minutes
 30-60 minutes
 More than an hour
 not applicable



96%

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Parking is another big problem, as maps typically don’t give any information about parking solutions at different locations. For 62% of drivers, it typically takes at least four minutes to find parking for each delivery they make. It’s not uncommon for it to take much longer, with nearly half of all drivers having had to spend more than 20 minutes on finding a spot in the past month.

Less than a minute
 2-3 minutes
 4-6 minutes
 7-10 minutes
 More than 10 minutes

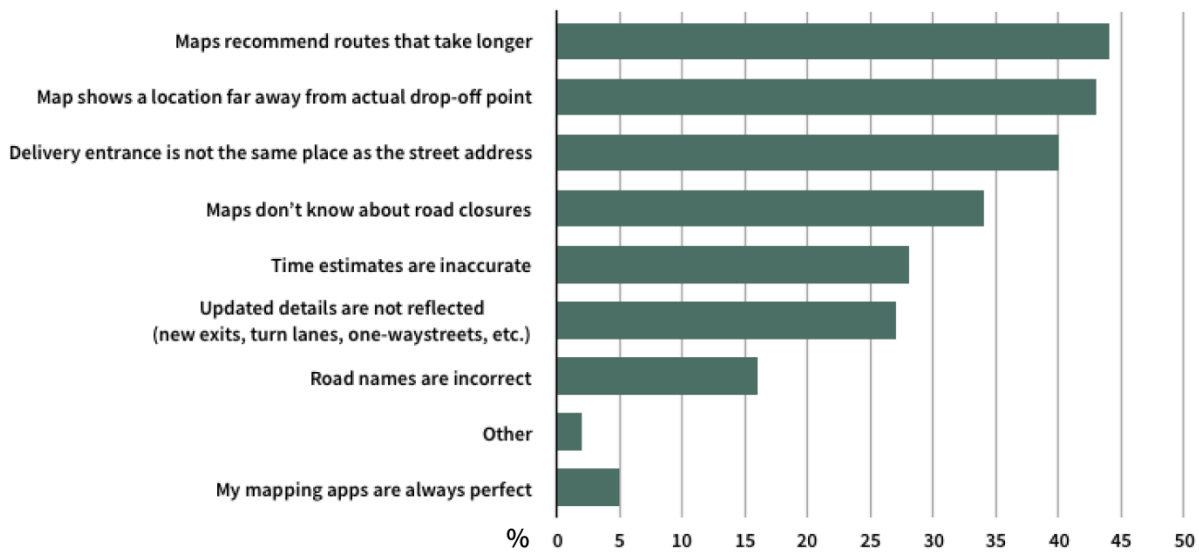


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Overall, 95% of drivers have experienced problems with maps as they go about their daily work. Nearly half (44%) of drivers say that maps recommend routes that take longer than they should, and 43% have experienced maps showing a location far away from the actual drop-off point. Other

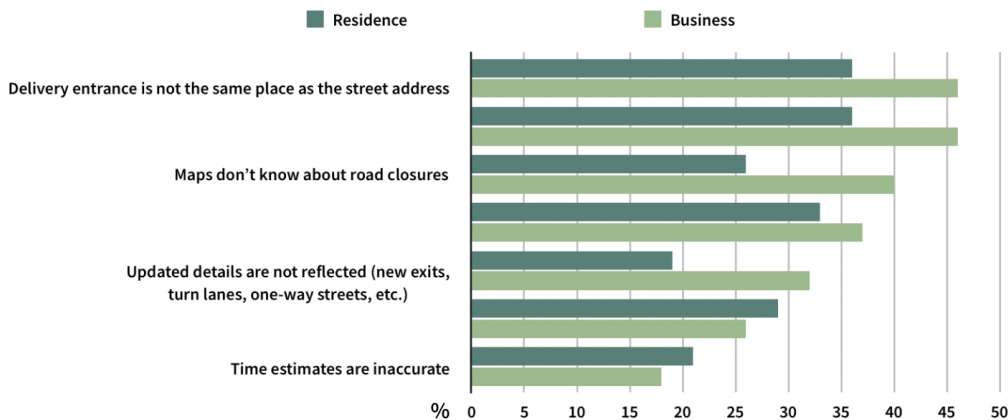


common problems include maps not knowing the difference between delivery entrances and street addresses, giving out wrong time estimates, and road names being incorrect.



Map issues are more common for business deliveries than residential deliveries.

Drivers that deliver to businesses report higher levels of most types of map issues. The sharpest differences are visible for issues related to how fast cities are changing, such as when the map doesn't know about road closures, or is missing updates about new exits, turn lanes, one-way streets, and so on.

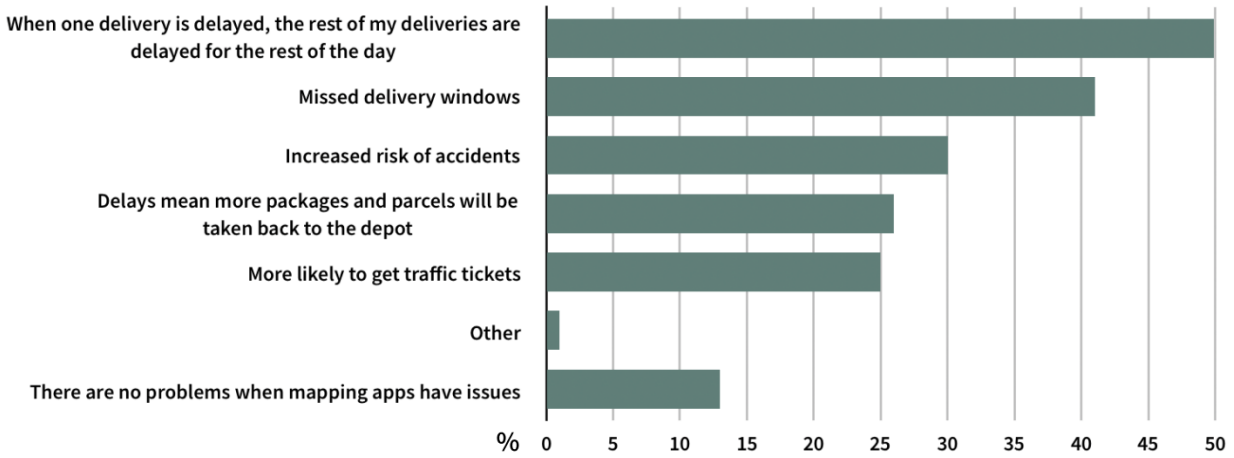


Business delivery drivers report more map issues than residential delivery drivers.

Having to deal with broken maps has significant consequences beyond the immediate time that's lost and the money that goes down the drain as a result. For instance, half of drivers say that when just one delivery is delayed, the rest of their deliveries are delayed that day. For the same reason, 41%



experience missed delivery windows as a direct result of broken maps. Getting a traffic ticket becomes likelier, and nearly a third even say that map issues increase the risk of accidents.



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Nearly a third (31%) of drivers believe they would save more than five hours every week if they had better maps, meaning that logistics companies could make annual savings of \$2.6 billion if their drivers had access to detailed and up-to-date maps.

Less than 10 minutes
 More than 10 minutes
 More than 30 minutes
 More than 1 hour
 More than 5 hours
 More than 10 hours
 I wouldn't save any time

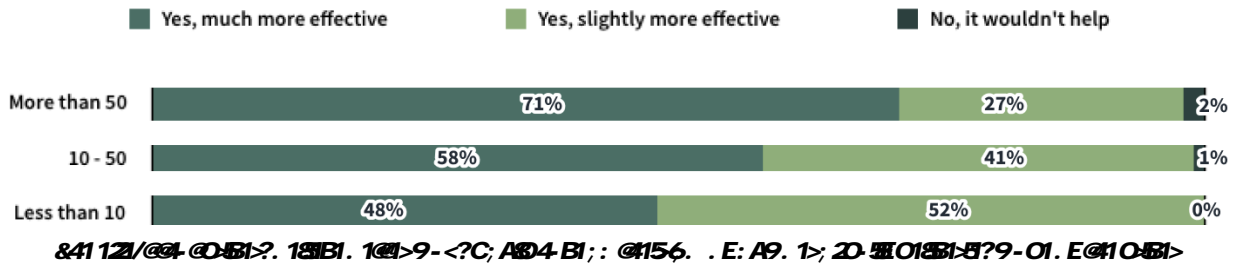


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Broken maps have a considerable impact on the majority of delivery drivers, but it's particularly pressing for drivers who deliver more than 50 parcels a day. Driving in cities also increases the risk of getting the brunt of map problems, as cities typically change faster than rural areas, with maps failing to keep up. Virtually all drivers believe that better maps would enable them to be more effective in their job, and the more parcels the driver delivers every day, the stronger that belief is—of the drivers who make more than 50 deliveries a day, 71% say they would be much more effective with better maps.



Methodology

The primary data in this report comes from an online survey conducted by Dimensional Research on behalf of Mapillary in December 2019 and January 2020. 219 delivery drivers in the U.S took part in the survey. To qualify for the survey, the respondents had to be using map applications in their work when delivering packages to homes and businesses. The survey questions were designed to explore the extent to which map issues affect the workflows of delivery drivers based on their personal experiences.

About half of the respondents deliver packages to both businesses and residences. A quarter delivers mostly to businesses and a fifth mostly to residences. The vast majority works mainly in urban and suburban areas, while about one out of eight works in rural areas. 3 out of 4 drivers deliver more than 10 but fewer than 100 packages per day.

Delivery locations

